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## ORIGINAL ARTICLES.

### SOME PHASES OF CEREBRAL SYPHILIS.<sup>1</sup>

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MR. PRESIDENT AND GENTLEMEN: It is to me a source of the greatest possible gratification to meet in this noble hall, and in the first city of your great continent, so many representatives of American medical science as are assembled here to-night; and you must allow me to thank you most heartily for the very kind and flattering reception which you have accorded to me. For many years past I have wished to cross the Atlantic, in order to make the personal acquaintance of many eminent colleagues who were already well known to me by reputation; and to learn something of the aspects of American medicine in your hospitals and universities.

I am not one of those who consider the old world to be effete and played out—sclerosed, as it were, through loss of nerve-cells and the undue proliferation of the lower tissues—unable to do much further original work, either in our own field of labor or in other cognate departments of research; yet I have felt at once, on my arrival amongst you, that in this new world of yours, of which I have as yet such a short experience, the air is fresher and keener, the minds more open and unprejudiced, the desire for greater and better knowledge more eager—in fine, the gray matter of the cortex more on the alert than in some parts of Europe, where the old conservative notion of “rest and be thankful” prevails to an undue extent, and where anything that is new is pretty sure to be looked upon with suspicion in leading circles, simply on account of its being new. Personally, gentlemen, I cannot help feeling it a special privilege to address you to-night under the presidency of my old friend and fellow-student, Jacobi, whom I first met, now thirty-six years ago, in Germany at the University of Bonn-on-the-Rhine. I trust that on this occasion your eminent President, as well as yourselves, will extend to me that kind indulgence which I now make bold to claim at your hands as your visitor to-night.

The fact that the structure and functions of the brain may be peculiarly and specifically affected by the syphilitic virus, seems to have escaped the acumen of the old masters in our profession. When syphilis first appeared in Europe, toward the end of the fifteenth century, and for a very long period afterward, the terrible external manifestations of this appalling disease engrossed the attention of medical

practitioners to an unusual degree; nor were these symptoms of the malady of France unknown to the laity. Thus Shakespeare's Timon says to the two courtesans, Phrynia and Timandra:

“Give them diseases! bring down rose-cheek'd youth  
To the tub-fast, and the diet. . . . Consumption sow  
In hollow bones of man; strike their sharp shins,  
And mar men's sparring. Crack the lawyer's voice,  
That he may never more false title plead,  
Nor sound his quilllets shrilly: hoar the flamen,  
That scolds against the quality of flesh,  
And not believes himself; down with the nose,  
Down with it flat; take the bridge quite away  
Of him, that his particular to foresee,  
Smells from the general weal; make curl'd pate ruffians  
bald,  
And let the unscarr'd braggarts of the war  
Derive some pain from you; plague all,  
That your activity may defeat and quell  
The source of all erection.”

While the clown in Hamlet, in the gravedigging scene, says in answer to the question how long a man will lie in the earth ere he rot, that he will last for eight or nine years—

“If he be not rotten before he die,  
As we have many pocky corsees nowadays  
That will scarce hold the laying-in.”

While, therefore, impotence and disease of the cranial bones were thus early stated to be a result of syphilis, yet nothing was known for a long time about any specific disease of the viscera, and more especially of the brain and spinal cord, as arising from venereal infection. When it, however, eventually became obvious that some nervous complaints, such as paralysis, epilepsy, and insanity, frequently occurred in those who had previously suffered from the more ordinary forms of constitutional syphilis, this was explained by that convenient figment, a metastasis having taken place from the skin and mucous membranes to the brain, whereby the latter suffered, without being actually diseased.

This fantastic view of the matter, however, did not commend itself to the clear intellect of such men as Hunter and Astley Cooper, who, on the contrary, stated plainly that the brain as well as the other internal organs were insusceptible to the venereal poison. This latter doctrine held the field for a very considerable time, as may be seen from a perusal of the works on diseases of the nervous system which appeared in the first half of the present century. Thus I find that Abercrombie, in his work on the diseases of the brain and spinal cord, which was for many years the great authority on nervous affections, and the first edition of which appeared in 1828, never once mentions the word syphilis at all. In speaking of the causes of brain diseases, the Edinburgh professor alludes to continued fever, and the exanthemata; injuries to the head; suppressed evac-

<sup>1</sup> Read before the New York Academy of Medicine, October 7, 1886.

uation of certain secretions, such as the catamenia and the urine; scrofula, passions of the mind, stimulating liquors, and exposure to the intense heat of the sun. *Voilà tout.*

The same remark applies to the works of Sir Charles Bell, Marshall Hall, and Romberg. In the clinique of the latter in Berlin, which I frequented assiduously in 1853 and 1854, and where I had the opportunity of seeing a large number of cases of all kinds of nervous diseases, I remember only a single instance where that great master allowed syphilis to have been the cause of the patient's illness; and that was a case of paralysis of the third nerve, which was stated to be due to syphilitic periostitis at the base of the skull. In 1854 and 1855, I likewise attended the syphilitic clinics of Von Baerensprung at Berlin, and of Sigmund at Vienna, and saw numerous cases of primary and secondary affections, but not one of cerebral or spinal syphilis. Nor did the great leaders of the Vienna school of medicine, such as Skoda and Oppolzer, whose teaching I followed in the winter 1855-56, draw attention to this subject in their otherwise admirable clinical lectures. Canstatt's text-book on special pathology and therapeutics, which was at that time in the hands of almost every student of medicine in Germany, and also constituted the principal guide of the practitioner, was likewise absolutely silent on this subject in the chapter on nervous diseases; while in that on syphilis the practitioner was actually cautioned not to believe in such a thing as syphilis of the brain—a most astounding statement when we consider that perhaps eighty per cent. of all cases of brain diseases which occur in patients between twenty-five and forty years of age are actually owing to that disorder! The same ideas prevailed in France, where Trousseau and other masters whose wards I frequented in the summer of 1855, never mentioned cerebral syphilis at all, and invariably attributed any nervous symptoms in syphilitic patients to cranial periostitis.

The only man who about that time knew that the brain was liable to specific disease was Professor Waller, of Prague, whose lectures I attended in the summer of 1856. He told his hearers then that he had seen red and white softening, and a deposit of solid effusions in the white as well as the gray matter of the brain. According to him, the symptoms during life were indistinct, and we could only diagnose cerebral syphilis where the patient suffered at the same time from external manifestations of the disorder. He had known patients in the later stages of the disease to suffer from epilepsy, paralysis, and mental hebetude; but the brain might also suffer at an early period, synchronously with the ulcerated throat, and he had seen cases in which a most violent form of headache was the principal symptom, and where, in spite of active treatment, the patient had died comatose. I believe that these observations of Waller's have never been published, and what I have just mentioned is culled from notes which I took at the time his lectures were delivered.

With this solitary exception, then, all that was taught until a comparatively recent time on this subject was, that syphilis might produce an affection of the dura mater analogous to that of any external

periosteum; that the membrane might become inflamed, and an intracranial node be formed, which would irritate the surface of the brain, and might give rise to neuralgic, convulsive, and paralytic symptoms. Cases of this kind have been described, amongst others, by Sir Philip Crampton, Graves, and MacDowell, of Dublin, by Reade, of Belfast, and by Todd, of London.

A new era in the history of our subject began with the great impetus which was about that time given to the study of pathological anatomy. Amongst the many successful workers in this most attractive field of research, two men stand forth conspicuously, so far as our subject is concerned, viz., Virchow, whose investigations cleared up the nature of syphiloma of the brain and its membranes (1869), and Heubner, who gave us a clear insight into the syphilitic alterations which are apt to occur in the cerebral arteries (1874). These researches may, each in its own way, be considered as landmarks in the history of cerebral syphilis. The foundations of the doctrine were now securely laid, so as to be beyond cavil; and it became clear that, although subsequent work might amplify our knowledge in this respect, it could no longer reverse what was once firmly established.

The salient feature of this work is, that the peculiar and specific alteration which occurs in the brain as a consequence of constitutional syphilis, is not inflammation, but that it bears throughout the character of a neoplasm. A foreign tissue is apt to be deposited in the dura mater, the subarachnoid space, or the cerebral substance, and forms the several kinds of tumor known as syphiloma or gumma. Apart from this, however, there occurs a special disease of the cerebral arteries, which likewise appears in the form of a neoplasm, inasmuch as a deposit takes place between the endothelium and the elastic fibres of the vessel, whereby its diameter is at first reduced, and the lumen eventually completely blocked up by thrombosis, causing ischaemia, starvation, and softening of the area of cerebral tissue which is supplied by the suffering vessel. Syphiloma and arterial thrombosis cover indeed the immense majority of cases of cerebral syphilis which are met with in practice. There remains a residuum of cases in literature in which no structural change could be discovered after death, and in which the symptoms were generally attributed to congestion; it is, however, a suggestive fact that during the last ten or fifteen years, during which the finer methods of microscopic research have been so much improved, the record of such cases has almost ceased; and it therefore appears probable that one or the other of the two fundamental lesions which I have just mentioned, and their consequences, may in the future be generally found to exist in fatal cases of this description; while in many of those which do not prove fatal, I believe anæmia rather to be the cause of the symptoms than congestion, to which it is usually attributed.

While, therefore, Virchow's and Heubner's work must be looked upon as epoch-making in the pathology of cerebral syphilis, correspondingly good clinical work has been done elsewhere. I shall probably not be contradicted when I say that Fournier's book, *La Syphilis du Cerveau*, which ap-

peared in Paris in 1879, has very greatly extended our acquaintance with the more common, as well as the more unusual, clinical forms of brain syphilis. Fournier has distinguished six different forms, viz., the cephalalgic, the congestive, the convulsive or epileptiform, the aphasic, the mental, and the paralytic; and his description of the symptoms which occur in these several forms is more minute and exhaustive than any other which had been given before, and will on that account always remain a monument of able and painstaking industry. A disappointing feature of Fournier's work is that he does not generally point out clearly the connection which exists between clinical signs and pathological lesions, and appears to be only slightly acquainted with the modern doctrine of cerebral localization, which in this department of clinical medicine finds its most interesting and striking practical applications.

I now proceed to the more particular object of my paper, which is to draw your attention to some manifestations of cerebral syphilis with the peculiarities of which we are as yet imperfectly acquainted. Time will only allow me, on this occasion, to revert to two amongst the numerous subjects which crowd on one's attention in thinking of brain syphilis, and those which I have selected are syphilitic coma, and syphilitic hemiplegia.

That coma, coming on more or less suddenly in an apparently healthy man, or in one who shows at the time unmistakable symptoms of venereal disease, may be a manifestation of this latter distemper, is not generally known in the profession. We are all familiar with uræmic, alcoholic, and diabetic coma, with the coma of cerebral hemorrhage, and that of opium poisoning; with that which occurs after the epileptic fit, with or after severe hysterical and hystero-epileptic convulsions; after prolonged exposure to extremes of temperature, whether of heat or cold; after erysipelas of the face and head; from compression of the brain by a depressed fracture of the skull, by extravasated blood, meningitis, and the presence of pus and other products of inflammation. Nor must we forget that several chronic affections of the nervous system, more especially tabes spinalis, and general paralysis of the insane, are apt, toward their termination, to be attended by attacks of coma. Most of these conditions are described in the textbooks, while syphilitic coma is not even mentioned. Fournier is almost the only author who has pointedly alluded to this condition, and related an example of it which occurred in his practice. A knowledge of syphilitic coma is, however, of great practical importance, inasmuch as it requires an entirely different treatment from that of other forms of coma; and an incorrect diagnosis is, in such a case, likely to seal the fate of the patient.

I have seen altogether eight unmistakable cases of syphilitic coma. They all occurred in males between twenty-five and forty-two years of age. In every one of them there was a definite history of primary and secondary syphilis; in four there was at the time a specific rash on the scalp, and other portions of the skin; and in one an ulcer on the tongue. In one case the coma appeared eight months after in-

fection; in six, between three and five years; and in one case seventeen years afterward. In two cases no other cerebral symptoms had occurred before the coma, while six other patients had at various times suffered from giddiness, epileptiform convulsions, and transient loss of power in the limbs.

Amongst the exciting causes of the attack I have noticed overwork, anxiety, trouble, and sexual and alcoholic excesses. In two cases no exciting cause whatever could be ascertained. Six of the patients were professional men, and two were men without any regular occupation.

The symptoms of syphilitic coma, I venture to classify as 1st, premonitory signs; 2d, symptoms of the initial stage; and 3d, symptoms of the final stage of coma.

A. I have noted the following premonitory symptoms of the attack of coma: headache, a feeling of confusion and drowsiness; indistinct utterance; a perception of black specks floating before the eyes, with sudden loss of sight for a short time; numbness of the limbs, and some loss of muscular power. In six cases such symptoms occurred either a few hours, or a day or two before the attack, while in two other cases they appeared to have been entirely absent.

B. The initial stage of syphilitic coma appears to set in habitually during sleep; the patient being discovered by his friends or servants in the morning in a state of apparent insensibility, from which he cannot be roused. He is lying quietly on his back, apparently quite unconscious, and, as it were, in a profound sleep. He is evidently not suffering any pain; he does not moan, throw himself about, or put his hand to his head. The face is absolutely devoid of expression; there is a complete blank, and no distortion of the features. The complexion is generally pale. Sometimes he can be roused by shouting to him; he may speak a word or two, and appears to recognize the voice of a friend better than that of a stranger. When asked whether he can see you, he may answer that he is blind. When requested to put out his tongue, he is seen to make an effort to do so. Sometimes the only response is a movement of the lips, at other times the tip of the tongue is protruded, which is then seen to be dry, and covered with whitish fur, through which some few red papillæ are seen to project; but it shows no lateral deviation. When food is put into his mouth, the patient makes an effort at deglutition, and generally succeeds in swallowing small quantities of fluid. The eyes are closed. On opening the lids the eyeballs are seen to be deeply retracted into the orbit, one sometimes more so than the other; and they are seen to diverge somewhat in their direction, which imparts to them a peculiarly dazed and stupid expression. The deeper the coma, the greater, *ceteris paribus*, is the degree of divergence. The pupils are small, and insensible to light. On account of the position of the eyes, an ophthalmoscopic examination is generally not practicable, but reveals nothing unusual when practised. The reflex excitability of the conjunctivæ is either very much blunted or entirely gone. The breath is sometimes offensive.

The muscles of the limbs and the body are in a state of perfect relaxation. The body will retain



any position which is given it. On lifting the arms or legs, no resistance is encountered; and on releasing them, they drop back heavily by their own weight, like inanimate matter, as in a dead body from which rigor mortis has disappeared. There is no difference at all between the two sides of the body; no appearance of hemiplegia, or rigidity, or tremor, but a dead level of paralysis, with complete loss of muscular tone, everywhere.

Sensibility and reflex excitability are greatly diminished, or quite gone. I have already mentioned that the conjunctival reflex is lessened or absent, and that there is no light reflex in the pupils. Tickling the soles or the knees produces no withdrawal of the legs; but on smartly pricking the skin with a pin, there is generally a slight response. Where the coma is not very deep, the patient may express by a grunt his dislike of the proceeding. The deep reflexes or tendon phenomena are either absent, or can be elicited only with considerable difficulty, and then appear slight and sluggish.

There is either from the first or very soon, incontinence of the excretions, especially of the urine, which is apparently secreted much in the usual manner, and dribbles away as it reaches the bladder, through paralysis of the sphincter. The feces are also apt to come away involuntarily, but occasionally there is obstinate constipation, which only yields to powerful purgatives or enemata, and the evacuation then takes place in bed, the patient having no sensation of its coming away and being unable to give a warning.

The pulse is habitually slow, beating at the rate of 40, 50, or 60 in the minute. In one case I have known it to go down to 36, while in another it was 86. The quality of the pulse varies in the different cases: it may be hard and wiry, showing the sphygmographic signs of increased tension, or tolerably full, or small and feeble, when the sphygmograph indicates low tension.

Respiration is slow and shallow, the excursion of the chest-walls and diaphragm being insignificant. The rate of inspirations varies like that of pulsation, but is generally less than in health. The average rate appears to be from eight to ten.

The temperature is below the average, and ranges habitually between 96° and 97°. In one case I have known it to go down to 95°.

In two cases there was an eruption of herpes on the face, large groups of vesicles being formed on inflamed patches on both cheeks. On the first day the liquid was clear; on the second it became opaque, and the epidermis then gradually peeled off in small patches. Otherwise the skin is generally dry, there being little or no perceptible perspiration.

What is the condition of the brain in the cases which I have just described? It is evidently a complex one, for while we have, on the one hand, symptoms of paralysis, there are, on the other hand, signs of irritation of the nervous centres. The loss of consciousness, and of voluntary motion and sensation, shows that the function of the cineritious substance of the hemispheres, and notably that of the frontal and temporal lobes and of the central convolutions, is in abeyance; while the state of the

pulse, respiration, and temperature shows that the cardiac, vasomotor, respiratory, and thermic centres in the medulla oblongata and the pons Varolii are in a state of irritation. Such a coincidence of paralysis and irritation is by no means so singular as it might appear at first sight, if we consider the various degrees of excitability which exist normally in different portions of such a highly complex organ as the brain is known to be. Of all parts of the encephalon, the gray cortex is the most highly vitalized, and the one that requires the most active circulation of the blood, the most incessant supply of oxygen, in order to be able properly to discharge its function. Any interference with the supply of arterial blood to the cortex, however temporary, acts like a blow with a hammer on a magnet—that is to say, it destroys its function for the time being by suddenly disturbing its molecular condition. In poisoning by carbonic acid there is at first a short stage of irritation of the cortex, shown by headache, giddiness, and noises in the head, but this is rapidly succeeded by depression, consciousness being lost and a state of coma induced. At this time, however, there is still irritation of the medulla, shown by a slow pulse, increased blood-pressure, and convulsions, and this stage is only eventually succeeded by paralysis, when respiration becomes feeble, the blood-pressure falls, and death results from apnoea. That in patients suffering from syphilitic coma there may be a short stage of cortical irritation, is rendered probable by the premonitory symptoms which I have mentioned, such as headache, giddiness, and a feeling of confusion.

A coincidence of depression and irritation may be observed in much less complex structures than the brain. Thus we have in the early stage of an acute attack of sciatica, whether of rheumatic or traumatic origin, on the one hand, symptoms of depression, viz., numbness in the foot and loss of power in the muscles supplied by the sciatic nerve; and, on the other hand, concurrently with them symptoms of irritation, viz., acute pain in the whole or part of the limb, and convulsive twitches in the muscles which are under the influence of the suffering nerve.

That there is irritation of the lower centres in the first stage of syphilitic coma, seems to me to be proved by the slow pulse, the increase of blood pressure which is present in the majority of cases, the retarded respiration, the lowered temperature, and finally by the state of the pupil and of the ocular muscles. There is a centre for these latter parts in the posterior portion of the floor of the third ventricle and the aqueduct of Sylvius, and therefore in intimate connection with the upper portion of the pons Varolii, which has been shown by Hensen and Voelcker to have definite relations to the iris and the other muscles of the eye. Irritation of this centre would explain the contraction of the pupil, and the different forms of ocular spasm which are found to be present in syphilitic coma; just as paralysis of the same centre is known to lead to the different forms of ophthalmoplegia.

The initial stage of syphilitic coma lasts, in general, from two to five days; and is followed either by recovery, or merges into the final stage which leads to death. In the former case the patient gradually



begins to show signs of returning consciousness; he opens his eyes from time to time, moves them about in different directions, and recognizes the people about him. He regains command over the sphincters, and calls the nurse when desiring to pass his excretions. The power of swallowing is improved; he begins to take food with some amount of relish, recovers his muscular power, sits up in bed, has natural refreshing sleep followed by wakefulness, and presently wants to get up and begins to go about again. In ten days or a fortnight, he may apparently be well, and able to resume, at least to some extent, his previous occupation.

In other cases recovery is more slow and imperfect. The speech remains indistinct and halting, the memory is weak. An hour after having seen a person, or read a newspaper, the patient remembers nothing about it. The power of moving the eyes freely remains impaired. He does not seem to take much interest in his affairs, or show much affection for his family. At times, however, he appears to realize his position acutely and bursts out crying, while at other times he is absent-minded and drowsy.

"All is but toys; renown and grace is dead;  
The wine of life is drawn, and the mere lees  
Is left this vault to brag of."

Eventually, however, even in these less favorable cases, the brain power may be more or less restored, showing but little deterioration compared with what it was previous to the attack.

This is the bright side of the picture, and as recovery generally takes place in consequence of an energetic specific treatment, the doctor may well take credit to himself for having saved his patient's life or reason. But there is also a darker side, since in some cases all the resources of our art prove unavailing. The patient then, after having been for a few days in the condition previously described, gradually sinks into what I propose to call the *final stage* of syphilitic coma.

This stage is characterized by an intensification of the symptoms of unconsciousness, loss of voluntary power, sensation, and reflex excitability; while the signs which I have referred to irritation of the pons and bulb, now pass into such as denote a paralytic state of these organs. The face is livid and cyanosed; the conjunctivæ are injected, covered with shreds of mucus, and insensible to touch or irritation. The mouth is wide open, from paralysis of the masseter muscles, causing the lower jaw to drop. The breath is fetid; the power of swallowing lost. There is either excessive secretion of buccal mucus, or great dryness of the lips, tongue, and cavity of the mouth, which are often covered by sordes. The surface of the body is bathed in clammy sweat. The pulse, where it has been hard and wiry, rapidly loses that character, and becomes small, feeble, and very quick, going up to 140, 180, or more. It eventually cannot be counted, and shows sphygmographically the characters of collapse, there being only a very slight elevation followed by a proportional depression, but without waves, aortic notch, or dicrotism. Respiration, from having been retarded is now accelerated, with thirty to forty or more inspirations per minute.

It may become stertorous, and pass into the Cheyne-Stokes type, or neurolytic catarrh of the air-passages sets in, with excessive secretion of bronchial, tracheal, and laryngeal mucus, while on auscultation râles are heard all over the chest. This may pass into hypostatic pneumonia, when the mucus becomes tinged with blood. At the same time the temperature is found to rise from 95° or 96° to 104° or 108°. The pupils become enlarged, and show their maximal dilatation at the moment of death. Eventually the face assumes the Hippocratic expression, and is occasionally so altered within a few minutes that the patient's friends have difficulty in recognizing him. This stage generally lasts from twenty-four to thirty-six hours, and terminates in dissolution; the patient passes away to

"The undiscovered country from whose bourne  
No traveller returns."

Of the eight cases of syphilitic coma which have fallen under my observation, six ended in recovery and two in death in the first attack. In three of those who recovered from the first attack, however, relapses took place after some time, and one of these latter patients eventually died, after having survived five such attacks in three years.

I regret to say that I was not allowed to make a necropsy in either of the two fatal cases; and I am therefore unable to describe to you the exact lesion which caused the illness and the final result. Reasoning from analogy, however, it seems to me highly probable that we have in these cases to do with an affection of an important cerebral artery, which becomes gradually occluded by specific deposit in the way so clearly described by Heubner; and that the vessel principally implicated is the basilar artery.

The basilar artery gives branches to the cerebellum, pons, and medulla oblongata, and terminates in the A. cerebri profunda, thus supplying the vitally most essential parts of the brain; and it is obvious that an interruption of the blood supply by this vessel must lead to a profound alteration of the parts nourished by it. Sudden occlusion of this artery by acute inflammation or deposit leads rapidly to a fatal result, the principal symptom being profound coma from the beginning of the illness. Hayem has recorded the case of a woman, aged thirty-three, who was brought into the hospital in a comatose state, in which she had been found at home shortly after having been seen engaged in her usual occupations. This patient died in twenty-one hours. The autopsy showed acute inflammation of the basilar artery; all the coats of the vessel, but more especially the internal one, being much thickened, and in one place so much so that the lumen of the vessel was entirely occluded. There were hyperæmia, swelling, effusion, and abundant production of young cells and nuclei. Where the vessel was not occluded by inflammation it was filled with a thrombus, part of which was soft and pinkish, while another part was hard and resisting, the clot being apparently due to rupture of the internal coat of the artery through the effusion, after which the blood had become coagulated and mixed with the broken-up structures. The brain matter was firm, with the exception of the

pons, which had a pasty consistency, more especially in its lower portion, which is in direct connection with the basilar artery; but there was no actual softening. Indeed, there had been no time for the production of such a change.

Similar cases have been seen by Vulpian, Martineau, Gougenheim, and Bastian. The case of the latter observer was that of a watchman, aged forty-three, who had been apparently in his usual health, and was suddenly taken with coma, which proved fatal in less than six hours. After death there was found an aneurismal dilatation of the posterior half of the basilar artery, which was perfectly occluded by a soft, colorless clot, uniformly adherent to the aneurismal walls. The middle cerebellar arteries were in connection with the aneurismal swelling, and likewise occluded. Otherwise nothing of importance was discovered in any one of these cases; and the symptoms which were present are indeed well explained by the sudden anæmia induced in the vasomotor, cardiac, and respiratory centres in the pons and bulb through the basilar artery becoming impervious. The only difference between the cases of acute inflammation and of sudden coagulation, on the one hand, and those which I have described as such of syphilitic coma, on the other hand, appears to be the extreme rapidity of the course of events in the former class, while this is much slower in the latter. When a specific deposit takes place in the basilar artery, therefore, it seems that much more time is required for producing occlusion of the vessel than is the case in ordinary inflammation, or thrombosis. For the same reason I should expect that, in addition to the occlusion of the vessel in a fatal case, there would also be found some degree of softening in the pons and bulb. While, therefore, there appears good reason to believe that syphilitic coma is due to specific disease of the basilar artery, I admit that this view still stands in want of corroboration by actual inspection.

The diagnosis of syphilitic from other forms of coma is sometimes easy, and sometimes extremely difficult. The history and attendant circumstances of the case must guide us in the recognition of such conditions as coma from exposure to extremes of temperature, from injury to the head and meningitis, from erysipelas of the face, etc. The coma which accompanies ingravescant apoplexy from cerebral hemorrhage, occurs habitually in men past fifty years of age, while syphilitic coma occurs either in young men, or in those in the prime of life. Moreover, there are in the former habitually the well-known symptoms of hemiplegia, which are absent in syphilitic coma. The cases most likely to be confounded with the latter are those where hemorrhage takes place into the pons, causing great contraction of the pupils, retraction of the eyeballs into the orbit, and paralysis of all four extremities. In such cases the question likewise arises whether we may not have to do with opium-poisoning. In endeavoring to decide these questions we must remember that in syphilitic coma the pupil is not extremely contracted, while in opium-poisoning and hemorrhage into the pons it is so to the utmost possible limit. Where laudanum has been taken, this may be smelt in the breath; and

if the unconscious patient be seen to scratch himself vigorously, we would conclude for opium, itching being a frequent symptom of poisoning with it. Finally, in opium-poisoning there is retention of the urine, with a full and often greatly distended bladder, which sometimes reaches up into the epigastrium, while in syphilitic coma the bladder is empty, and the urine found to dribble away as it is secreted.

The coma which follows an epileptic fit, and severe hysterical and hystero-epileptic convulsions, is habitually of a much shorter duration than syphilitic coma. Moreover, the epileptic fit, even where it has not been witnessed, leaves evidence in a bitten tongue, foam at the mouth, and petechiæ of the face. The history of the case may also be of use. A young woman was admitted a few months ago into the hospital under my care in a comatose condition, and the mother stated that the girl had had fits, and had for some time past been unable to feel anything in her left side. Here we had, therefore, to do with hemianæsthesia in a young woman, and fits which led me as such to suspect hystero-epilepsy; and this was confirmed by the further progress of the case. In this instance the coma lasted for thirty-six hours.

Alcoholic coma occurs frequently in the London docks, where the men who are employed there are apt to develop a craving for sucking raw spirit from a barrel through a straw, until they fall down dead drunk; and, if discovered near the barrel in this state, the diagnosis is indeed readily made. But under other circumstances difficulties may arise. The smell of alcohol in the breath is of very little diagnostic use, as a man beginning to suffer from the first effects of cerebral hemorrhage is apt to take brandy for reviving himself, or is given it by sympathetic bystanders. More trustworthy information may be obtained from the urine. When small doses of alcohol are taken, this is eliminated partly by the breath, and partly undergoes combustion in the blood and tissues, and can therefore not be discovered in the urine; but large doses, such as are sufficient to produce coma, are eliminated unchanged by the urine; so that, if the latter be found to have an alcoholic smell, this is enough to establish the diagnosis. The temperature is generally lowered in alcoholic coma, but rarely more than one or two degrees, so that, for instance, a temperature of 95° would speak against it. Another important sign is that the pupil is enlarged in alcoholic coma, while in syphilitic coma it is small.

The diagnosis of uræmic coma will be easy where the history of the case is known; but where it is not, difficulties may be experienced. This kind of coma may occur quite suddenly, without any premonitory signs, for the patient may fall down unconscious while writing at his desk, or driving in a carriage. In general, however, it is preceded by headache and vomiting, and occasionally by defects of sight and hearing; after this, epileptiform convulsions set in, and leave the patient comatose. The breathing is then stertorous, and the pupils are dilated. The patient may then recover for a time, but is seized again by a fit, and becomes

once more comatose. It is, therefore, seen that in uræmia we have to do with fits and remissions, and that there is not that dead level of unconsciousness as in syphilitic coma. Anasarca is frequently present; there is generally no incontinence, but retention of the urine, which is scanty, and if a specimen be obtained, it is found to contain albumen and tube-casts. Finally, the presence of urea can be shown in the blood by raising a blister, evaporating the serum which is effused, treating the residue with alcohol, and then adding a few drops of nitric acid, when crystals of nitrate of urea will be formed.

Finally, how are we to distinguish syphilitic from diabetic coma, or, as it is sometimes called, Kussmaul's coma, or acetonæmia? About one-half of the patients who succumb to diabetes, die comatose; and as the coma sometimes sets in quite suddenly, and apparently without any warning, Prout, and Frerichs after him, were quite justified in saying that the diabetic lives habitually on the brink of a precipice. There are three different kinds of diabetic coma. The most common is that with which Kussmaul's name is connected, and which occurs chiefly in young persons, and where the course of the disease is rapid. This is sometimes ushered in by epigastric pain, vomiting, diarrhoea, or obstinate constipation. The patient is then seized by a peculiar form of dyspnoea; he lies gasping for breath, respiration being very much accelerated, while the respiratory movements are free, and the air-passages pervious. The breath has a peculiar odor, like cider, apples, or chloroform, which is owing to the presence of acetone in the expired air. The urine is abundant and contains sugar; in almost all cases it likewise shows a peculiar reaction with perchloride of iron, which imparts to it a deep reddish or Burgundy color, which disappears on heating or acidulation. This reaction is generally owing to the presence of aceto-acetic acid in the urine. This acid, however, is a very unstable compound, and easily splits up into acetone and carbonic acid, so that acetone is also habitually found in the urine. It appears probable that, besides these two substances, there are other poisons present in it, more particularly diacetic ether, trimethylamine, and beta-oxybutyric acid, which are formed in the blood in consequence of the abnormal tissue-changes, and poison the nervous centres unless they can be quickly eliminated. In consequence of this, the patient becomes drowsy, and there may be at the same time a restless delirium. There are sometimes remissions, but eventually the coma deepens. The pulse is quick; the temperature normal, subnormal, or very low indeed—down to 90° in the rectum. The pupils are sluggish, the surface of the body is cold, and death is sometimes preceded by convulsions. The peculiar form of dyspnoea, and the presence of acetone and its allies in the breath and urine, are sufficient to guide us in our diagnosis of these cases.

There are, however, two other forms of diabetic coma, the knowledge of which we owe chiefly to Frerichs and Dreschfeld. The first of these is what may be properly called diabetic collapse. It occurs more in elderly persons, especially when they are

stout and subject to gout and nephritis, and after they have been diabetic for some considerable time. There are the usual symptoms of collapse, which soon passes into coma and death; and the condition is probably owing to fatty degeneration of the heart and sudden failure of its action, especially after over-exertion or excess.

The last form of diabetic coma, and which is only rarely met with, is that where there is a first stage of excitement resembling that of alcoholic intoxication, and which is, after a time, succeeded by coma and death. In these cases acetone has also been discovered in the urine, and in one of them large quantities of alcohol were found in it, although it was ascertained with certainty that the patient had not taken alcohol in any form or shape. These latter two kinds of diabetic coma cannot therefore possibly, on account of the great dissimilarity of symptoms, be confounded with syphilitic coma.

The prognosis of syphilitic coma is always grave. Although it is not by any means as hopeless as that of uræmic and diabetic coma, which almost invariably prove fatal, yet there is proof that the terribly subtle and rancorous poison of syphilis has insinuated itself into the cerebral arteries; and even if neutralized by treatment for a considerable time, will probably sooner or later return to the attack, and eventually overcome all resistance. The prognosis of the individual attack is, however, on the whole, not very unfavorable, more especially if specific treatment is resorted to in the beginning. My two cases in which the first attack proved fatal, had been treated simply with stimulants until symptoms of paralysis of the pons and bulb had supervened, so that they were practically hopeless at the time the specific treatment was commenced. What is likely to occur after the patient has recovered from the attack, depends to a great extent upon the degree of perseverance with which he may allow a specific treatment to be carried out. Some patients are averse to swallowing medicine unless they are at death's door, and give up treatment as soon as they feel tolerably comfortable. For these the prognosis is of the worst description; for they are certain either to succumb to a similar attack sooner or later, or to end their days in a madhouse as general paralytics. Where, on the contrary, a patient will submit to two years' consecutive treatment for the distemper under which he is laboring, he appears to have a fair chance of escaping further trouble from this source.

The treatment of syphilitic coma should be partly symptomatic, and partly specific. Systematic feeding with easily digestible substances, more especially milk, chicken broth, beef tea, and small doses of alcohol, is of the greatest importance. The food may be peptonized if considered advisable. If the patient should appear in imminent danger of death, hypodermatic injections of ether sometimes turn the balance in his favor. I once injected forty minims at a time, with the result that the patient rallied almost immediately. The average dose is twenty minims three or four times a day. Ammonia has appeared to me of little use in this condition. Blistering the back of the neck or the forehead, however, seems sometimes to be beneficial. Ice or other



cold applications to the head are unnecessary where the temperature is normal, and hurtful where it is diminished; while in the later stages of the complaint where the temperature runs up very high, I have found them quite useless. The cold douche which is often so beneficial in the coma of meningitis, has appeared to me to do more harm than good in some of the cases now under consideration, while in others it scarcely seemed to warrant the trouble which was required for administering it.

The principal part of the treatment is the specific one by mercury, which should for obvious reasons be administered either by inunction or by hypodermatic injection. For inunction we may use the old-fashioned blue ointment, which is probably, after all, the most effective of all external applications, as mercury appears in the urine after a single inunction of one drachm, which contains twenty grains of metallic mercury; or the oleate may be used, containing ten, fifteen, or twenty grains of the yellow oxide for an application. Three inunctions of this are, however, required for showing mercury in the urine. The yellow oxide may also be rubbed up with lanolin, and seems to be rapidly absorbed in this combination. For hypodermatic injections I consider the perchloride to be the most effective preparation, and this should be injected deeply into the substance of the glutæi muscles, in order to avoid irritation and the formation of abscesses, which is so apt to occur when this remedy is injected into the subcutaneous areolar tissue. We may, however, also use the albuminate, the peptonate, the cyanate, and the foramid of mercury, in doses of one-sixth to one-third of a grain, once a day.

Time warns me that I shall have to bring my remarks to a close, and I will, therefore, at once proceed to the second portion of my discourse, which will treat of some of the clinical peculiarities of syphilitic hemiplegia as compared with ordinary hemiplegia.

The symptoms of the ordinary attack of hemiplegia, owing to hemorrhage into the central ganglia or embolism of the Sylvian artery, are rarely reproduced in the attack which is owing to syphilitic infection. While, in the former, we meet with the well-known symptoms of apoplexy to which more or less complete motor paralysis of one side of the body is added, we find in the latter a number of different types, which all show great variations from one another, as well as from the non-specific attack of hemiplegia. There are, however, some features which all these several types have in common, viz:

1st. The immense majority of the patients are males, according to my experience ninety-five per cent., while both sexes suffer about equally from ordinary hemiplegia.

2d. The patients are young or comparatively young subjects, viz, between eighteen and forty years of age;

"For in the morn and liquid dew of youth  
Contagious blastments are most imminent."

3d. They show a peculiar behavior of the deep reflexes or tendon phenomena, which has not been

previously described, and to which I shall presently refer in a more pointed manner.

One of the several types of syphilitic hemiplegia is shown by the case of a clerk, aged twenty-eight, who was under my care at the hospital in November, 1884. This young man told me that he came from a healthy stock, but had, for many years past, committed excesses in drinking, smoking, and sexual indulgence; that he had had gonorrhœa half a dozen times, and a hard chancre, followed by specific eruptions, four years ago. After that he continued apparently quite well for three years; but unquestionably that terrible bacillus was breeding in his lymphatic system all the time, for he found one day that his left eyelid drooped, and that he had difficulty in seeing with the left eye. At that time he happened to be in Australia, and six months afterward took passage home. He had been on board ship for a fortnight, and never thought that there was anything the matter with him, when, one day, while sitting on deck, he experienced a feeling of faintness and giddiness; there was no loss of consciousness or language, no headache or sickness, no incontinence of the excreta, but he had a strange feeling of loss of power gradually stealing over his right side, and in half an hour found that he could not use his hand, and that he walked lame. The paralysis was incomplete, for he has always been able to move the arm and hand in different directions, although slowly and sluggishly, and has not been obliged to take to his bed for a single day.

Such an evolution of symptoms points very plainly to brain disease of syphilitic origin; indeed, the diagnosis might in this case almost have been made without inquiry about a previous specific sore or secondary symptoms. This man had had a stroke of paralysis of the right side at twenty-eight years of age, without any other systematic affection which could account for it; and we may take it for granted that if hemiplegia occur in a patient between twenty and forty years of age, who has no heart disease, diabetes, tabes, kidney disease, alcoholism, etc., and in whom there has been no preceding acute illness, such as pneumonia, typhoid fever, etc., there is the strongest presumption that the affection is venereal. Another characteristic sign was that there had been no apoplexy at the time the stroke took place; for while the ordinary attack of hemiplegia from softening or hemorrhage is habitually accompanied by loss of consciousness and incontinence of the excreta, the syphilitic patient, when struck by hemiplegia, often assists himself, being fully conscious at the invasion of the paralysis. Then again the palsy had been incomplete from the beginning, and had remained so throughout its further progress. This incomplete character of the paralysis is another peculiar feature of syphilitic hemiplegia; for while in the idiopathic form there is complete loss of motor power, at least for the first few days or weeks of the illness, this is somewhat exceptional in the syphilitic variety, which is more frequently paresis than paralysis.

I have stated that the first nerve symptom which occurred in this patient was drooping of the left eyelid, and difficulty of seeing with the left eye.

On examining the eye, I found there was external as well as internal ophthalmoplegia, owing to paralysis of the third, fourth, and sixth nerves. This paralysis was complete in the superior and inferior recti, and the inferior oblique muscles; and incomplete in the levator palpebræ superioris, the internal and external recti, and the superior oblique. There was also paralysis of accommodation, and of the sphincter and dilator of the iris. The pupil was large, of ovoid shape, insensitive to light, and only slightly influenced by eserine and atropine. Dr. Laidlaw Purves reported the ophthalmoscopic appearances of the fundus of the eye to be normal, the tension likewise normal, no bulging or tenderness to pressure, vision  $\frac{16}{CC}$ , color-vision fair. The

right eye and eyelid were quite normal, and there was no sign of disease in the other cranial nerves. The complication of hemiplegia of one side with ophthalmoplegia on the other side is again most significant for syphilis. In the ordinary form of hemiplegia the only cranial nerves which are affected are the portio dura and the hypoglossus of the same side. In syphilitic hemiplegia, on the contrary, we frequently meet with palsies of the nerves of the eyes, more especially the third, but also the fourth and sixth. Such palsies, indeed, were long ago called by Ricord the signature of syphilis on the eye of the patient. Ptosis alone is very common; and still more common is ptosis combined with paralysis of the rectus superior, or the rectus internus. Besides these, there are all possible varieties and combinations of ocular palsies, occurring in about three out of every four patients suffering from cerebral syphilis.

A second type of syphilitic hemiplegia is that in which the paralysis is preceded by headache of a peculiar character; and of this the following is a good instance:

An architect, aged thirty-seven, single, consulted me in December, 1881. He had not inherited any neurotic tendency, and had been in excellent health—saving an attack of smallpox when quite young—until 1873, when after impure connection he was troubled with a chancre, which was soon followed by roseola, sore throat, and ulceration of the tongue. These symptoms continued for about twelve months, but eventually yielded to mercury and Zittmann's decoction. The patient then remained apparently in good health for six years, when he was seized with headache of extreme violence, which occupied the very centre of the head, and came on periodically three or four times in the course of the twenty-four hours. It lasted for about an hour each time, and was so severe as to drive him nearly frantic. It was not like neuralgia, rheumatism, or megrim, but more deep-seated and inside the head, as if blows from a heavy hammer went right through the substance of the brain. The patient was singularly enough all the time treated with quinine, which did no good, and the pain continued with the same maddening violence for six months, when the patient one day fell down in a fit, speechless, but not unconscious, paralyzed on the right side, but retaining full control over the excreta. From that day he

never has had any more headache. In ten days he recovered his speech, but the paralysis of the side remained. After a time he was seized with such severe pain in the spine that as many as five hypodermatic injections of morphia per diem were required to ease him; and shortly afterward he lost power over the left leg, the bladder, and the bowels. The bladder at the same time was so irritable that the patient had to introduce the catheter, which he did with the left hand, every hour by day and night. His speech and all the intellectual faculties were normal, there was no ocular paralysis, but paralysis and rigidity of the right arm and both legs, paralysis of the bladder, and great sluggishness of the bowels. No similar evolution of symptoms ever takes place in cases of idiopathic disease.

A third type of syphilitic hemiplegia is that where both sides of the body are affected in succession, the attacks following one another either within a few days, or weeks, or months. A case of this kind was that of an officer, aged forty, single, who came under my care in April, 1880. He had enlisted in the British army when seventeen years of age, and served chiefly in India. His health had on the whole been good, but in 1875 he had gonorrhœa and syphilis, and was treated with mercurial inunction. Rather more than three years after this he was told off to take part in the campaign in Afghanistan, and suffered a good deal from exposure to the extreme cold prevalent at that time. Presently he began to suffer from headache, giddiness, and general malaise, which continued for about a week. One night, being too restless to sleep, and feeling very unwell, he got out of his tent and began to walk about in camp, but found that he had great difficulty in moving. He therefore went back to his tent, and after awhile fell asleep. On waking in the morning he was surprised to find himself paralyzed—the left side, and that the excreta had passed under him. He could not put out his tongue, had great difficulty in speaking and swallowing, and his pupils were very large. Five days afterward he felt that he was losing power in the right side of the body; and this became worse day by day, so that at the end of ten days he was completely paralyzed and had lost the power of speech. During the whole of this time he never once lost consciousness, but constantly suffered from faintness, giddiness, and headache. He was put on iodide of potassium, and within a month from the commencement of the illness began to improve. The speech returned, although there was still difficulty of articulation; he recovered a degree of motor power, more especially in the right side; was invalided and sent home, and bore the journey fairly well. I have seen him quite lately; he remains in much the same condition, is totally disabled so far as locomotion is concerned, but his intellectual faculties have remained quite clear.

In other patients months may intervene between the successive attacks of hemiplegia. Such was the case of a woman, aged thirty-four, whom I saw at the hospital in December, 1883. She had been quite well up to the time of her marriage, five years ago. Her husband was a soldier, had served in the British army in almost every quarter of the globe, and no-

toriously led a very wild life. A month or two after her marriage, the wife was seized with ulcerated throat and an obstinate skin eruption. Three years afterward she suddenly found that her left eyelid drooped, and there are now ptosis and paralysis of the rectus internus. Six months after that she had a stroke of right hemiplegia with aphasia, and four months after this left hemiplegia. She made a good recovery so far as the aphasia and the paralysis of both sides were concerned, but the ptosis and palsy of the rectus internus remained unaltered.

The last type of syphilitic hemiplegia to which I will draw your attention to-night is that where the paralysis comes on quite slowly. In February, 1885, I was consulted in the case of a young man, aged twenty-three, who after infection only eight months previously, was taken with insidious symptoms of gradually increasing hemiplegia of the left side. As he was in a highly nervous condition, and so depressed in spirits that he would often burst out crying apparently for no reason, his affection had been diagnosed as hysterical, and he had been treated with iron and phosphorus and shower baths. The loss of power had appeared at first in the left leg, the patient being unable to lift his foot well from the ground, and scraping it when walking. After a time the fingers of the left hand had likewise become affected; the patient was very clumsy in dressing and eating, and had to give up playing on the piano. Paralysis of the lower branches of the portio dura eventually came on, causing deformity of the face when laughing, and difficulty in whistling. Headache and drowsiness then intervened, and the intellect became clouded.

This case was peculiar from the unusually early appearance of so-called tertiary symptoms, viz., eight months after the primary sore; and this had at first no doubt prevented a due appreciation of the cause of the illness. Treatment by inunction was now resorted to, and showed the disease to have been truly specific, for there was manifest improvement in a few days, and the patient eventually made a very fair recovery.

You will readily admit that the several types of syphilitic hemiplegia which I have just sketched, differ *toto cælo* from the ordinary form of hemiplegia which occurs in the aged from hemorrhage or softening, while they differ no less considerably from one another. Indeed, while twenty cases of ordinary hemiplegia taken quite promiscuously are very much alike, there is hardly a single case of syphilitic hemiplegia which exactly resembles another; and it is this extraordinary variety in their clinical aspect which constitutes one of their most characteristic features. But is this peculiar grouping of symptoms sufficient to render the diagnosis of specific brain disease certain? Such is not the opinion of Fournier, who states that there is not a single pathognomonic symptom whereby we can distinguish idiopathic from syphilitic hemiplegia, and that we must rely for our diagnosis not only upon the peculiar development of the nerve symptoms, but also on the presence of venereal affections in other organs, such as the skin, the testicles, and the bones; on the fact that syphilitic hemiplegia occurs not so much in the aged

as in persons in the prime of life; and that we can arrive at certainty only by the results of specific treatment, as the latter may cure the syphilitic variety, while mercury and iodide of potassium remain ineffectual in ordinary hemiplegia.

I am bound to say that I consider this latter test, viz., by the results of treatment, a very fallible one, as specific treatment fails to cure a very considerable number of cases of hemiplegia where there can be no doubt whatever about the specific nature of the complaint. I have, however, for some time past been of opinion that there exists one truly pathognomonic symptom whereby we are able to distinguish at a glance the syphilitic from the ordinary form of hemiplegia; and this symptom is an excessive exaggeration of the deep reflexes or tendon phenomena, which is present in syphilitic cases, and wanting in idiopathic cases.

In 1882, I showed a syphilitic patient, at the Clinical Society of London, in whom this symptom was so characteristic that it attracted my special attention. In that case the tendon phenomena were so much increased in the paralyzed leg that it shook fearfully on the least provocation, such as a sudden noise, opening the door, introducing the catheter, sneezing, coughing, etc. Percussion of the patellar ligament, of the tibia, and in fact of almost any point of the limb, induced violent so-called spinal epilepsy, which lasted for a considerable time, and was very greatly in excess of what is seen in ordinary hemiplegia. Another patient, when his patellar tendon was only touched, stamped the ground so violently as (according to his own saying) almost to bring the house down; and it is an interesting fact that this excessive exaggeration of tendon reflexes is not at all in proportion to the degree of the paralysis or muscular rigidity which may be present. Indeed, I have seen it in cases of syphilitic hemiplegia as well as of monoplegia, where the loss of power, although quite definite, was yet comparatively very slight; and it is a symptom on which I now chiefly rely in my diagnosis of these cases. Of course, it can only be utilized where the reflexes on the healthy side are normal, for there are patients, more especially of the neurasthenic type and also those suffering from the various forms of spastic paralysis, in whom these reflexes are everywhere greatly exaggerated, and in whom, therefore, such an appearance would not have the same significance. The exaggerated response occurs in the upper, as well as in the lower extremity, with equal force and readiness; but the symptom is habitually not quite so marked in cases where the paralysis has come on gradually as where there has been a sudden stroke.

I regret I have no time left to speak of the influence of treatment in this and similar conditions. It is, however, a singular fact that, while the therapeutic results in syphilitic nervous affections are sometimes exceedingly gratifying, they should, in other instances, be just the reverse. There is a general impression in the profession that the prognosis in specific lesions is altogether better than in ordinary idiopathic disease; but this is only partially true, for many patients suffering from cerebral affections on a syphilitic base, even if energetically treated on



a specific plan, do not recover, and either remain stationary, or undergo a rapid process of further deterioration, ending habitually in general paralysis of the insane. This apparently incongruous fact is, however, well accounted for by the circumstance that in brain syphilis we have to do not only with specific lesions, but also with the secondary consequences of such; and that these latter cannot, in the nature of things, be expected to yield to antisyphilitic treatment. No doubt a gumma in the subarachnoid space may be absorbed, and thickening of the dura mater reduced; but where a gumma has already caused wasting of the cranial nerves by strangling their substance, or where the occlusion of an important cerebral artery has led to softening of a certain area of cerebral tissue, such secondary and non-specific lesions cannot be cured, for no amount of mercury and iodide of potassium, or, in fact, any other drug, can restore nerve cells and fibres which have once perished. It is, therefore, only possible to cure those patients in whom the primary specific lesions have not as yet conduced to secondary ordinary lesions. The lesson which we have to learn from this should, therefore, be to subject patients, as soon as they show the slightest definite symptom of specific brain disease, at once to an energetic antisyphilitic treatment, so as to disperse the primary and truly syphilitic lesions, and to prevent, so far as possible, the formation of secondary ordinary lesions, against which latter our remedies are known to be powerless. What occurs in syphilis of the brain thus affords a striking illustration of the truth of the old Hippocratic maxim, *ὁ δὲ καὶ ὁρᾷ ὁρᾷ*, "the opportunity is fleeting." Let us, therefore, always endeavor to make use of it before it is too late.

#### THE PROGRESSIVELY INCREASING MORTALITY OF THE CÆSAREAN OPERATION IN THE UNITED STATES.

BY ROBERT P. HARRIS, M.D.,  
OF PHILADELPHIA.

AN abstract report of what I stated through Dr. W. H. Parish, before the American Gynecological Society at its late meeting in Baltimore, has been furnished our medical journals for publication, in such a condensed form that it must necessarily fail in accomplishing the purpose for which the full record was prepared. The reporter, by reducing the facts to four lines, and leaving out entirely the most startling portions presented, has destroyed the progressive character of the statement. Forty years ago, this country stood in the fore front among the nations of the world in respect to its proportionate success under the Cæsaean operation; to-day, judging from the work of the last five years, we are almost at the bottom of the list. And this retrogression has taken place notwithstanding the fact that the possibility of the success of this operation in the United States, when performed under favorable circumstances, has amounted to a saving of seventy-five per cent. of the women and eighty per cent. of the children. To show that this is a possibility still attainable under proper care and management, we have only to cite the fact, that during the past year

European operators have, by the improved methods of Säger and Leopold, saved 18 out of 20 women, and 19 (possibly 20) children.

Prior to 1846, my record shows a credit to this country of 21 operations, with 13 recoveries and 10 children saved. In contrast with this, the last 21 operations, covering nearly six years, show a mortality of 18 women and 14 children; of the last, three having been destroyed by craniotomy, and one by the forceps, its cranium having been fractured.

In the decade from 1846 to 1855 inclusive, the record is as follows:

Number of operations . . . . .	25	Children delivered alive . . . . .	13
Women saved . . . . .	12	Children delivered dead . . . . .	12
Women lost . . . . .	13		

From 1856 to 1865 inclusive, ten years:

Number of operations . . . . .	25	Children living . . . . .	10
Women saved . . . . .	12	Children dead . . . . .	15
Women lost . . . . .	13		

From 1866 to 1875 inclusive, ten years:

Number of operations . . . . .	36	Children living . . . . .	11
Women saved . . . . .	10	Children dead . . . . .	25
Women lost . . . . .	26		

From 1876 to 1886 inclusive, ten and one-half years:

Number of operations . . . . .	37	Children living . . . . .	16
Women saved . . . . .	8	Children dead . . . . .	21
Women lost . . . . .	29		

As there have been 5 Säger operations performed in the United States, all ending fatally, with 3 children lost, there must be some readily ascertainable reason for the difference of results here and in Europe. We know that these operations were performed with care, as have been many others in the last ten years, which were likewise fatal; but the most careful of operators cannot overcome the difficulties engendered by long delay and futile intermeddling on the part of one or several accoucheurs, preceded, as in some instances, by the patient waiting for nature, of a midwife. It is one thing to operate as soon as the proper time arrives, and quite another to do it under a conviction that this time has in all probability passed many hours, some days, or even a week or two. There would appear to be an intimate connection between the living of the fetus and the success of the operation, an association which has also been very marked in the Säger cases. If our obstetricians had as good a knowledge of pelvimetry as prevails in the maternities of Austria, France, Germany, and Italy, there would be much less delay, and fewer attempts to deliver, either by forceps or craniotomy, in cases of pelvic deformity, or other forms of obstruction. If the pelvic space is first accurately ascertained, its measure of diminution should at once determine the possibility or impossibility of delivery by version, the forceps, or craniotomy. It is certainly bad practice to fail first in craniotomy, and then be forced to deliver the destroyed fetus, by opening the abdomen and uterus, with the increased risk to life engendered by the futile intermeddling.

The declination of the family is sometimes given as a reason for delay; but this objection to the use of the knife would not hold, if the parties in interest

were made to understand that the operation was absolutely requisite, and that to delay was to lose the patient. Reduce the mortality, by promptness, decision, and the best improvements in operating, and the dread of the knife will diminish as success becomes more frequent. Properly educate the obstetrician, and the surgeon will soon show what measure of fatality truly belongs to his part of the work. We are certainly justified, from the Snger successes, in our claim that *per se* the Cæsarean operation is far less fatal than it has been made to appear in the United States. The *possibility* of the operation is certainly far beyond its present *probable result* in this country, as calculated from past experience.

As this statement of results has been made entirely in the interest of science and humanity, the writer hopes that our medical journals will give it the widest publicity possible. Out of 144 cases in my private record, 63 were communicated, either by the operators or by other correspondents; hence the value of the statistics, as showing the mortality under the operation. But for these unpublished cases, we should have made a much more encouraging exhibit.

#### THE USE OF KAVA KAVA AS A DIURETIC.

BY HERBERT C. ROGERS, M.D.,  
OF BROOKLYN, N. Y.

I FIRST noticed the diuretic properties of kava kava nearly two years ago, when I commenced using it in gonorrhœa.

Among the cases recorded in my note-book are the following:

CASE I.—Charles W., aged twenty-seven, United States, in the steamship business. Family history good. Patient states that three days ago, while attending to his duties, he was suddenly seized with a chill and headache, and toward evening commenced vomiting. Yesterday he first noticed that his ankles and legs had become swollen; he also noticed that he was compelled to make water frequently, and that only a small quantity passed at a time.

When I was first called to see him, November 2, 1885, his legs and feet were greatly swollen. He was also quite weak, and suffered somewhat from dyspnœa. Abdominal and thoracic viscera were normal. Temperature, pulse, and respiration were normal. The urine presented a dark, smoky appearance; amount, seventeen ounces during twenty-four hours; it contained albumen, nearly seventy-five per cent.; sp. gr. 1.018, blood, and epithelial casts. As the patient was complaining bitterly of headache, I administered a hypodermatic of  $\frac{1}{16}$  gr. pilocarpine. In a few minutes the drug began to show its physiological action, and in a short time he was covered with a profuse perspiration. The patient was placed upon milk and Vichy water; also to take thirty minims of the fl. ext. kava kava in half a glass of water, every three hours.

Nov 3. Patient during the preceding twenty-four hours has passed nineteen ounces of urine; chemical and microscopical appearances same as at last examination. He still complains of the pain in his

head, but says it is not so severe as it was yesterday. He has not vomited since the evening of the 2d, and his bowels have moved three times. Ordered forty minims of kava kava every three hours.

4th and 5th. Patient feels a little better. Has passed twenty-one and twenty-five ounces respectively; the urine is clearer, and the albumen amounts to about thirty per cent. (by volume).

10th. Up to the time of the present note the patient has been gradually improving. The amount of urine passed is between thirty-five and forty ounces; albumen about fifteen per cent. As he has been suffering intensely from odontalgia for the past two days, and was unwilling to have his teeth drawn except while subjected to an anæsthetic, he was this afternoon put under the influence of nitrous oxide and three of his teeth were extracted.

11th. Patient is sitting up to-day, and is feeling quite nicely. During the preceding twenty-four hours he passed thirty-seven ounces of urine. The albumen is slightly increased, probably due to the anæsthetic administered yesterday. Sp. gr. 1.020. Treatment continued.

16th. Patient up, and about his room. He has passed, during the previous five days, two hundred and forty ounces—an average of forty-eight ounces per day. The swelling of his feet has disappeared, and also the swelling under the eyelids. The urine is clear, and contains about five per cent. of albumen. He has passed since last note from forty-five to fifty ounces per day. Sp. gr. 1.021. His appetite is good, and he is feeling much better. He was advised to continue taking the kava kava regularly for a month or six weeks—the dose to be ten minims in water three times a day.

Dec 3. I examined patient's urine, sp. gr. 1.027. He is passing from forty-seven to fifty-one ounces a day. The dropsy has entirely cleared up, and he is feeling quite well, with the exception of being a little weak. He left for the South to-day.

In a letter received from him about the middle of April, he writes that he is feeling better than he ever felt in his life. He has gained ten pounds in weight. His urine is free from albumen. He is passing from forty-eight to fifty-three ounces per day, of a sp. gr. 1.022. He has not taken any medicine since February.

CASE II.—Jennie M., aged thirty-five, single, United States, a type-writer by occupation. Ill nourished and confined closely to office. When seventeen years old, patient suffered from scarlet fever. While recovering from this, she noticed that her feet and legs were becoming swollen, and also that her stomach and abdomen were increasing in size, so that she was obliged to let out her clothes. All these symptoms disappeared in a short time under treatment, when she resumed her employment. One week ago, while at work, she was taken with vomiting, which was followed by pain across the loins, and her feet and legs commenced swelling. She also suffered from headache. Her urine had been scanty for a long time.

I was called to see the patient October 6, 1885. Found her legs and feet much swollen. She was suffering also from hydroperitoneum. Her urine

was scanty, of a smoky color, and loaded with albumen, fifty per cent.; it also contained blood, granular, and waxy casts. Complete anorexia. She complained of a dull, aching pain over the lumbar region. She suffered from constant nausea, but seldom vomited. She was ordered forty minims fl. ext. kava kava in half a glass of water, every four hours; and a pill containing two grains citrate of iron and quinia three times a day. She was also ordered to drink as much fresh milk as possible with Vichy water.

Under this course of treatment the hydroperitoneum and anasarca of the lower extremities gradually diminished, and the quantity of urine passed during the twenty-four hours increased from twenty-nine ounces on date of my first visit, to fifty-one ounces on November 29th. The sp. gr. on October 6th was 1.018, and on November 29th, 1.022. The urine is much clearer, and the albumen amounts to about twenty-five per cent.

The treatment has been continued up to the present note, when I diminished the fl. ext. kava kava to half the quantity—twenty minims to be taken three times a day.

*Dec. 20.* The patient has recovered sufficient strength to go about, and is feeling quite comfortable. Her urine still contains a small amount of albumen. She is passing from forty-eight to fifty-one ounces a day. Her appetite is good, and she feels sufficiently restored to return to her occupation. She will report occasionally, and bring specimens of her urine to be examined. She will take for the present five drops of the tr. ferri mur. three times a day. The kava kava was discontinued December 1, 1885.

**CASE III.**—Henry Z., lawyer, aged thirty-one. Born in England. Father died of apoplexy. Mother still living and enjoying good health, being eighty-five years old. Patient has been in good health until three years ago, when he was confined to bed by rheumatism, which lasted two weeks. He was attended by a homœopathic physician, who informed him, after he was able to go out, that his heart was not affected. To use the patient's language, he has "never fully recovered from this sickness." Shortly after this attack of fever he went South and remained until last December, when he was called home on account of business. At this time he was feeling better than at any period since his illness. About two months ago he began to notice that he was a little short of breath, which difficulty troubled him most when he was addressing a jury. As he was busy, he found no time to take rest. He also noticed that his feet and ankles were a little swollen at night on reaching home, and that he was obliged to sleep with his head quite high.

I first saw the patient March 13, 1886, when he came to consult me about the symptoms narrated above. Upon examination, I found that his feet and ankles were moderately swollen; slight hydroperitoneum. Examination showed that the heart was hypertrophied; the apex beat was heard and felt the strongest in the fifth intercostal space and a little more than one inch to the left of the nipple line,

and a mitral regurgitant and an aortic direct and regurgitant murmur were readily heard. His temperature was normal. Pulse 110. His urine was quite clear, and contained merely a trace of albumen; no casts; acid; sp. gr. 1.020, and he was passing thirty-three ounces in the twenty-four hours.

Patient was ordered milk, Vichy water, and infusion of digitalis  $\text{ʒij}$  every two hours.

*March 15.* Patient feels about the same. The digitalis caused so much stomach disturbance that he omitted it for the preceding twenty-four hours. Thinking that the stomach trouble was, perhaps, due to other causes, I ordered two minims fl. ext. digital. in water three times daily. At the end of forty-eight hours, however, he was suffering as much as ever from his stomach, and I had to omit the digitalis. His condition was about the same, with the exception that he did not suffer from shortness of breath. He was ordered to take ten minims of the fl. ext. convallaria majalis and forty minims of the fl. ext. kava kava in half a glass of water every three hours; to continue on with the milk diet; and in addition to take  $\text{ʒij}$  of whiskey three times a day.

*22d.* Patient is feeling much better. The diuretic effect of convallaria and kava kava is very marked to-day. He says he is passing enormous quantities of urine. The anasarca of feet and ankles is nearly gone. The hydroperitoneum has entirely disappeared. The urine is free from albumen. The heart is acting with more regularity. The appetite and digestion are good.

*28th.* As to-day was quite warm and pleasant, my patient accompanied me around part of my route. He says he can go up and down stairs slowly. He does not suffer from dyspnoea. The swelling is entirely gone from his feet and ankles. His appetite is good, and he is able to lie down at night. I stopped all medicine; but a few days later he called at my house complaining of slight dyspnoea and a little swelling about the ankles. I ordered five minims of the kava kava and five minims of convallaria majalis three times a day.

*April 3.* Patient was able to return to his office to-day, and to attend to light office business.

*May 25.* Met patient in court to-day. He informs me that he is feeling very well, and that this morning he made an address in court, nearly three hours in duration. He is still taking the medicine. He sleeps well, and his appetite is good.

**CASE IV.**—Was asked to see, in consultation, a young lady, sixteen years of age, who had had scarlet fever three or four weeks ago. The attack was quite mild, and she was confined to bed less than ten days. Up to this present attack the patient had always enjoyed good health. I found her very weak. She had great swelling of her feet and legs; was passing but a small quantity of urine per day, which was loaded with albumen. There were complete loss of appetite and some headache. She was put upon milk, and forty minims of kava kava in half a glass of water every three hours, and ten drops of tr. ferri mur. three times daily. In the course of a few weeks, as I am informed by her mother, the œdema entirely disappeared, her appetite became good, and she went back to school.



The fluid extract of kava can be given in doses of from five minims to a drachm, repeated every three, four, or six hours according to the result desired. The preparation which I have used is the fluid extract prepared by Parke, Davis & Co., whose fluid extracts are arranged to represent one grain for each minim.

377 GATES AVENUE.

# ANTISEPTIC SURGERY IN THE PENNSYLVANIA HOSPITAL.

BY CHARLES BINGHAM PENROSE, M.D.,  
RESIDENT PHYSICIAN.

In June, 1886, an attempt was made, with the permission of the visiting surgeons, to introduce thorough antiseptics into the surgical wards of the Pennsylvania Hospital. Before this, a modified form of antiseptics had been used. Instruments were, sometimes, placed in solutions of carbolic acid. Wounds were washed with solutions of carbolic acid, or of bichloride of mercury. Vessels were tied with catgut or silk. Rubber drainage tubes were used, and wounds were generally closed with silver sutures. Carbolic oil, dry carbolic gauze, or gauze wrung out of a solution of bichloride of mercury, constituted the dressing. Iodoform was used freely.

Many of the materials necessary for a thorough antiseptic operation were at hand, but, in most cases, discouraging failure was the result of all attempts at such an operation. The nurses were untrained in antiseptic methods. They considered their hands clean if washed two or three times during the day. They placed dressings on chairs or beds; a favorite place was the ward carriage. Dry carbolic gauze was thrown about, apparently with the idea that the little carbolic acid in it was an absolute preventive against all contamination. It was most difficult for the busy operator, assisted by men ignorant of antiseptic principles, to observe all antiseptic precautions. He was, consequently, content with modified antiseptics—that is, with careless antiseptics. Some of the channels by which septic matter might enter the wound were closed, but at the same time many remained open.

The statistics of the Hospital were good. They could, however, have been better; and the good results were obtained with much unnecessary labor and expense. Cellulitis often followed amputations of fingers. Pus often appeared under scalp wounds. Large amputations were dressed every few days, and the healing of stumps was often much delayed by unabsorbed catgut ligatures. In fact, many patients who had been discharged from the Hospital with stumps entirely closed, returned, weeks afterward, with small abscesses caused by unabsorbed catgut ligatures.

The object of the writer is not to decry the methods which had been previously used, and which he himself had used for several months; but it seemed to him that it might be useful briefly to describe the methods which were afterward more successfully pursued; the simple ways of preparing the necessary materials; and to give an account of some of the results that have been obtained.

It cannot be said that all cases have had the bene-

fit of thorough antiseptic treatment. The Hospital was deficient in many important particulars necessary for antiseptic surgery, and the nurses were untrained. All the minor operations, however, and several major operations have been performed in a thoroughly antiseptic manner.

*Method of Proceeding.*—The part to be operated upon was shaved, washed with turpentine or ether, scrubbed with a nail-brush and soap, and finally washed off with a solution of bichloride of mercury, 1 part to 1000 parts of water. It was placed upon a rubber sheet wet with a solution of bichloride, and towels wrung out of the same solution were placed about the part. Upon the ward carriage were two vessels containing bichloride solutions; one solution of 1 part of bichloride to 1000 parts of water, the other, 1 part to 2000. To each vessel was attached a rubber hose. During the operation the weaker solution was kept constantly running over the wound. All arteries were tied with catgut. Catgut drains were used in all smaller wounds where drains were necessary. In larger wounds rubber drainage tubes and bone drainage tubes were used. Instruments were boiled after every operation, and during the operation they were placed in a three per cent. solution of carbolic acid. New sponges were used for every operation. Catgut sutures were employed in all but a few cases where fine silk was necessary.

As before mentioned, the catgut which had previously been used in the hospital was rarely, if ever, absorbed. This catgut was obtained from Seabury & Johnson, and was preserved in carbolic oil. It was not pliable, and was difficult to tie. It is probable that, in many cases, this gut was not absorbed because the wounds were not dressed antiseptically, and suppuration took place. In an antiseptic operation it should, at least, have become encysted. Much better catgut was prepared by the following method: Ordinary commercial gut, such as is used for musical instruments, etc., was placed in oil of juniper for about two days, in order to remove the oil of the gut. It was then washed, and preserved in alcohol. Gut thus prepared is absorbed in from five to ten days, according to the size. If placed in a watery solution for a minute before using, it becomes as pliable as silk. In cases where it was necessary for the sutures to be stronger, and to be absorbed less rapidly, chromicized gut was used. The gut was chromicized by Lister's method. One part by weight of catgut was placed in a solution containing  $\frac{1}{10}$  part of chromic acid, 1 part of carbolic acid, and 20 parts of water. In about forty-eight hours the color of the solution changes from an orange to a faint olive color. The gut was then washed, and preserved in alcohol. Gut thus prepared is absorbed in from ten days to three weeks.

The catgut which was used for drainage was generally absorbed in five days.

Bone drainage tubes were made from chicken bones. The bones were cleaned, washed with ether, and placed for about two days in a solution of hydrochloric acid, one part of acid to five of water. After the calcareous elements had thus been dissolved, the endosteum was easily removed. They were then placed in oil of juniper for two days, and afterward

preserved in alcohol. These drainage tubes are absorbed in about five days.

Much stronger tubes have been made of parchment, at the suggestion of Dr. W. B. Hopkins. The parchment was softened in a solution of bichloride (1 to 1000), and was then rolled into the requisite shape. The tubes were then placed in oil of juniper for three days, and preserved in alcohol. No opportunity has yet occurred for using these tubes.

Rubber drainage tubes were kept in a three per cent. solution of carbolic acid.

As already stated, sponges which had been used were always thrown away after the operation. Cheap sponges were bought; the carbonate of lime was dissolved by soaking for several hours in dilute hydrochloric acid, one part of acid to ten of water. They were then bleached by the following method: Place the sponges for a few minutes in a solution containing 180 grains of potassium permanganate to five pints of water; squeeze dry, and place in a solution made by dissolving ten ounces of hyposulphite of sodium in sixty-eight ounces of water and then adding five fluid-ounces of hydrochloric acid. This solution should be made several hours before using, and should be filtered. When placed in the last solution, the sponges immediately become bleached; they should then be removed and washed with water. These sponges were kept in a solution of bichloride (1 to 1000), and during an operation they were washed in the bichloride solution.

Wounds were dressed with protective, and several layers of gauze wrung out of the bichloride solution (1 to 1000)—the surface next the skin being thickly covered with iodoform. If necessary, over this was placed corrosive cotton, or corrosive jute, and a gauze bandage wrung out of the bichloride solution.

It is, unfortunately, not possible accurately to compare the statistics of the Hospital when modified antiseptics was employed with the statistics of the past three months, because no regular statistics of the results and complications of the smaller wounds were previously kept. The writer, however, can recall at least a dozen cases of cellulitis of the hand and arm following wounds, which occurred in his own ward during the four months previous to the introduction of thorough antiseptics. On one occasion there were three men in adjacent beds; one with cellulitis following amputation of the fingers, a second with cellulitis following a lacerated wound of the wrist, and a third with cellulitis following a dog-bite.

During the last three months over five hundred wounds requiring sutures have been treated at this Hospital. One hundred and fifty of these were scalp wounds; fifty were amputated fingers. Among the others, were eleven compound fractures of fingers, six compound dislocations of fingers, seven wounds requiring the suturing of tendons, twelve pistol-shot wounds of the hand. One case of cellulitis has followed these injuries. This occurred in a man with a crushed heel, admitted seven hours after receiving the injury. The skin and fascia had been torn from the os calcis, leaving the bone exposed. The wound was dressed in the usual way. The temperature remained normal for four days after admission, and he

had no pain. On the fifth day he complained of pain, and the temperature rose to 100°. The dressing was removed and the foot was found to be red, swollen, and tender. The stitches were cut, and irrigation with bichloride (1 to 5000) was started. In twelve hours the temperature fell to normal. In two days a permanent dressing was again put on, and he made a speedy recovery.

There have been two cases of surgical erysipelas, one occurring in a scalp wound which was first seen four days after the injury had been received; the other, in a case of compound fracture of the skull, where the delirium of the patient rendered it impossible to retain the dressing in place.

It must not be forgotten that these five hundred wounds were all dirty wounds, occurring in laborers injured at their work, or in men from the slums of the city, who take their baths yearly, if at all.

Felons, abscesses, etc., have been freely laid open, scraped thoroughly with the finger-nail or a spoon curette, and scrubbed with a solution of bichloride (1 to 1000). Catgut drains, when necessary, were introduced, the wounds were wholly or partially sutured, and an antiseptic dressing was put on. These cases healed under one or two dressings, like simple lacerated wounds. Poultrices were never used after an incision had been made.

Poisoned wounds, dog-bites, human bites, etc., were enlarged if necessary, and thoroughly washed with a solution of bichloride (1 to 500). Out of twenty-four such cases, there has been but one case of cellulitis following the injury.

The following is a list of the major cases which have been treated with thorough antiseptics during the last three months:

I. Razor cut of wrist: division of ulnar artery, tendons of palmaris longus, flexor carpi radialis, and flexor sublimis digitorum. The tendons were sutured with catgut. Dressing removed after fourteen days; wound closed, with the exception of small ulcer where the catgut drain had emerged. Discharged with good use of hand.

II. Hand crushed by wheel of carriage: compound fracture of four metacarpal bones. First dressing removed after ten days, to take out rubber drainage tube. When the second dressing was removed, ten days later, the wound had completely closed.

III. Compound fracture of thigh, lower third, from direct violence. External opening closed when first dressing was removed, at the end of nineteen days.

IV. Compound fracture of humerus, middle third, from direct violence. Catgut drain introduced. First dressing removed after twelve days; small, superficial ulcer left.

V. Compound, comminuted fracture of humerus, from direct violence. External opening closed in eighteen days, after two dressings.

VI. Compound, partial fracture of radius, caused by fall of gravel bank; large, lacerated wound, full of dirt. Dressing removed after fourteen days; wound closed.

VII. Ununited fracture of radius. The bones were exposed, the ends freshened, and fastened to-

gether with silkworm gut. Dressing removed after twelve days; wound closed.

VIII. Compound fracture of ulna and radius, from direct violence. Wound enlarged about three inches. Wound closed when first dressing was removed, after fourteen days.

IX. Amputation of breast, and removal of axillary and subclavicular glands for carcinoma. Rubber drainage tube removed on fifth day. Second dressing removed on twelfth day; wound closed.

X. Amputation of leg, at middle third, for crush. Bone drainage tubes introduced. First dressing removed after two weeks; second and last dressing removed two weeks later.

XI. Crushed leg, which had been amputated at upper third, twenty-four hours before admission. When admitted, temperature  $103^{\circ}$ ; stump full of blood, and dressed with lard. Stump was opened, flaps scrubbed with bichloride solution; rubber drains introduced, and stump closed. Cured in twenty-five days, after three dressings.

XII. Compound, depressed fracture of skull. The skull was trephined, and the compressing fragment of bone removed. Catgut drain introduced, and wound closed. When the first dressing was removed, at the end of fourteen days, there was complete union.

XIII. Cervical adenitis: removal of large number of glands from clavicle to mastoid process. Catgut drain introduced, and wound closed. First dressing removed in nine days, small ulcer left.

XIV. Incised wound of leg: division of part of tibialis anticus muscle, extensor longus digitorum, two peroneals, soleus, and gastrocnemius, and the musculo-cutaneous nerve, and anterior tibial artery. Muscles and nerves sutured. Complete union on ninth day. When discharged, there was no anæsthesia or paralysis.

XV. Multiple incised wounds of foot from lawn mower: several tarsal and tarso-metatarsal joints opened, and compound fracture of several tarsal bones; division of all the flexor tendons. Tendons sutured, and catgut drain introduced. When the dressing was removed, at the end of two weeks, all the wounds were closed. When discharged, there was perfect use of the whole foot, with the exception of two toes.

XVI. Crush of foot: several large, lacerated wounds; compound, comminuted fracture of great and little toes. Amputation of great toe. Cured in seventeen days, after one dressing.

XVII. Strangulated inguinal hernia and epiplocele. Excision of large part of omentum, and division of internal and external abdominal rings. Sutures introduced in sac, and in columns of ring. Catgut drain. Complete union when the first dressing was removed, after twelve days.

This list comprises all the major cases which have been treated antiseptically during the past three months at this hospital; they are not merely the picked cases which have done well. Many other major operations have been done with modified or careless antisepsis, with the usual results, some good and some bad.

With regard to the deleterious effects of anti-

sepsis, little need be said. In no case has a patient exhibited symptoms of mercurial poison. In a few cases, some irritation of the skin has been produced by the bichloride. The only cases in which such irritation has been of any consequence, were those in which the skin had been badly bruised. In such cases weaker solutions than 1 to 2000 should be used in the dressings. The writer of this article suffered from a mild attack of mercurial stomatitis, produced by unnecessary handling of bichloride solutions. No other person connected with the hospital has been poisoned.

The cases mentioned in the statistics of this paper were dressed by Dr. T. S. K. Morton, and the writer. Dr. Morton expects, in several months, to report the further results of antisepsis in the Pennsylvania Hospital.

## MEDICAL PROGRESS.

ACUTE RHEUMATISM IN BOTH MOTHER AND NEW-BORN CHILD.—SCHAEFER records the case of a woman, aged thirty-five, who on the fifth day of an attack of acute articular rheumatism, gave birth to a healthy child. On the third day after birth the child was taken sick with fever ( $99.9^{\circ}$  F.), anorexia, and swelling of the superior surfaces of both feet. On the following day there was swelling of the first phalangeal joint of the left index finger, and a doughy swelling of the region of the left hip-joint; temperature  $102.2^{\circ}$  F. On the day thereafter there were redness and swelling at the wrist and at all finger-joints.

PEACOCK (*Lancet*, 1882) describes a similar case, treated with salicylate of sodium.—*Centralbl. f. klin. Med.*, Aug. 14, 1886.

NIGHT PALSY.—DR. W. E. STEVENSON, in the *Practitioner* of June, 1886, contributes a short article on a special form of numbness of the extremities occurring, for the most part, during the night, and to which Weir Mitchell has given the name of night palsy. Dr. Ormerod's description is quoted as follows: "The symptoms are remarkably definite in character. They occur in women, usually about the climacteric period, and begin in the night. On waking, the patient has a feeling in the hands and arms (commonly on both sides) of numbness, deadness, pins-and-needles; sometimes there is actual pain, severe enough to wake her. There is also loss of power, the hands and arms become useless, and she cannot hold things. This may so far predominate that the patient comes to be treated for a supposed paralysis. Sometimes, also, the patients say that the hands swell, the veins swell, etc., at the time. The symptoms pass off in a little time, and rubbing suggests itself as a natural remedy. But occasionally they manifest themselves in the daytime also, and then principally when the patient sets about her ordinary work—washing, scrubbing, needlework, etc." The author has had several cases of the affection, and his observations agree, in the main, with the foregoing description. Though mostly seen in women at or near the climacteric age, it is occasionally met with in men, in whom it is likely to be more severe and obstinate. Some attribute it to anæmia; others to gastric disturbances. All of the



author's patients recovered with rest, bromide of potassium, and galvanism.

**SODIUM PHOSPHATE IN THE TREATMENT OF PELVIC PERITONITIS.**—CHÉRON, treating by mistake an extensive pelvic exudation for a fibroid, by subcutaneous injections of sodium phosphate, found that the former rapidly disappeared. The solution used consisted of sodium phosphate, sodium sulphate,  $\text{aa } 5$ ; aq. destill. 120. Of this, four grammes were injected deep into the tissue every eighth day. In two months the entire exudation had disappeared. Four other cases gave like results. The hypodermatic needle must reach the subcutaneous connective tissue, and the injection be slowly made. The point where the needle enters must afterward be gently rubbed for one or two minutes.—*Centralblatt für Gynäkologie*, No. 15, 1886.

**A SUGGESTED ALTERATION IN THE COMPOUND LIQUORICE POWDER.**—DR. MARTIN OXLEY writes as follows to *The Lancet* of October 2, 1886: "Having found that the above preparation produced very severe griping in many instances where I had ordered it, the griping being particularly severe in some of my younger patients, I have ordered the following formula for some time past, in which anise fruit is substituted instead of the fennel and one-fourth part of ginger is added. The altered formula runs thus: Senna and liquorice-root, of each 2 parts; anise fruit and sulphur, of each 1 part; sugar,  $5\frac{1}{4}$  parts; ginger,  $\frac{1}{4}$  part. This altered preparation is quite as satisfactory in its laxative properties, is less liable to gripe, and is as pleasant to take as the official powder, and I would suggest its trial in cases where the powder as now prepared produces the disagreeable effects to which I have referred."

**CRIME AND RESPONSIBILITY.**—In an article thus entitled, in the *Canada Medical and Surgical Journal*, of October, 1886, DR. DANIEL CLARK presents the following conclusions:

1. The natural history of crime shows that brains of chronic criminals deviate from the normal type and approach those of the lower creation.
2. That many such are as impotent to restrain themselves from crime as the insane.
3. That immoral sense may be hidden from expediency by the cunning seen even in the brutes, until evoked by circumstances.
4. No man can shake himself free from the physical surroundings in which he is encased.
5. Crime is an ethical subject of study outside of its penal relations.
6. Insanity and responsibility may coexist.
7. Some insane can make competent wills, because rational.
8. The monomaniac may be responsible should he do acts not in the line of his delusion, and which are not influenced thereby.
9. Many insane are influenced in their conduct by hopes of reward or fear of punishment in the same way as the sane; the rudiments of free-will remain.
10. Many insane have correct ideas in respect to right and wrong both in the abstract and concrete.
11. Many insane have power to withstand being influenced even by their delusions.

**THE TREATMENT OF LUPUS BY LOCAL APPLICATIONS.**—DR. P. G. UNNA, of Hamburg, writes as follows in *The Lancet* of September 25, 1886:

Mr. Beiersdorf (40, Wohlers Allee, Altona) has, upon my suggestion, composed the following five plasters for the cure of lupus. Each roll (length one metre, breadth twenty centimetres, equal to one-fifth square metre) contains—

Salicylic acid.					Creasote.
10.0 grm.	.	.	.	.	20.0 grm.
20.0 "	.	.	.	.	40.0 "
30.0 "	.	.	.	.	50.0 "
40.0 "	.	.	.	.	40.0 "
50.0 "	.	.	.	.	50.0 "

Any one wishing to avoid, from the first change of the plastermull, the painful first period after its application, and in this way to institute a completely painless treatment for lupus, may paint the raw surface with a four per cent. aqueous solution of cocaine ten minutes before applying the second plaster. For this short anaesthesia cocaine is as efficient as it was found useless in attempting to produce a lasting diminution of the pain, in addition to the salicylic acid. But creasote is, to my mind, not only the morphine of the skin; it has another especial value in the treatment of lupus—its antiseptic power. It is not only a correctant of the salicylic acid, but also the best adjuvant we can find. At least, excepting cod-liver oil, I know of no antituberculous remedy in which I have so much confidence as in good beech tar creasote. In any case of this phthisis of the skin, with which we are now concerned, it is a remedy which, applied in the concentration and in the manner indicated, deserves every consideration. This supposition has, moreover, been proved in practice to be correct. The salicylic creasote plastermull is a remedy which brings about a cure of lupus without any extraneous aid. The strongest plaster necessary for the case should always be employed at the commencement, since at first a relatively normal skin-surface has to be attacked; under these the lupus tubercles can be seen to soften and break down. The action can be accelerated, as is the case with all plastermulls, by covering them with hot poultices. The dressing should be changed once, or at the most twice, daily, with or without the application of cocaine, and the parts cleaned, according as the susceptibility of the patient will allow it, with linimentum calcis, oil, lard, or even with soft-soap and hot water. As soon as it is found that with this simple treatment the excavations are getting shallower, and that no new ones are appearing, we may assume that the whole of the lupus nodules have fallen out. It is then advisable to have recourse to weaker salicylic-creasote plastermulls, and finally, when the lupus seems to be totally destroyed, but the process of skinning over is sluggish and a quicker completion is wished for, to still weaker means, such as mercurial-carbolic or zinc-salicylic plastermulls, or to a simple healing remedy like iodoform, ichthyol, etc. Smaller and more isolated nodules are generally completely cured under the salicylic-creasote plastermulls, even those which are richest in salicylic acid. In general, I consider it better to let the strong plastermull lie somewhat longer than is apparently necessary, so as to give a chance to even the deepest-lying nodules to shell out,

and for the same reason the plaster should overlap the edge of the lupus patch by at least half an inch.

This is the simplest possible form of the treatment of lupus; but it can, of course, be further developed and enriched by combining it with other methods according to the individual case. These various modifications, which cannot all be mentioned here, do not alter the original idea, which consists in keeping up a continual but never excessive exfoliation of the affected portions by means of a highly elective substance (salicylic acid), which destroys the weaker tissue of the new growth, whilst a second substance (creasote) renders the process painless and at the same time exercises a directly destructive action on the bacilli.

A by no means slight advantage of this process of treatment is the cosmetic improvement which it effects, for in this concentration the salicylic acid assists powerfully in removing old stringy and lumpy scars, and after every removal of the scabs which it produces the surface is found to be in a distinctly smoother condition. On the other hand, it leaves sometimes a longer-lasting redness, which probably results from a paresis of the capillaries or from the destruction of the stratum granulosum, the layer which causes the white tint of the skin. This is best met by using an ichthyolic ointment or by painting on a zinc-ichthylol-gelatine preparation afterward.

**THE MANAGEMENT OF PLACENTA PRÆVIA.**—MALCOLM MCLEAN, in a recent article on the management of placenta prævia, thus concludes:

1. In any case, avoid the application of all chemical styptics, which only clog the vagina with inert coagula, and do not prevent hemorrhage. At the very first, the patient should be put in a state of absolute rest, body and mind, and a mild opiate is often desirable at this stage, to quiet irritation.

2. Inasmuch as the dangers from hemorrhage are greater than all else, to both mother and child, at the earliest moment preparations should be made to induce premature labor, and labor being once started, the case should be closely watched to its termination by the accoucheur.

3. In primiparæ and mothers with rigid tissues, the vagina should be well distended, by either the colpeurynter or tampon, as an adjuvant to the cervical dilatation.

4. In the majority of cases, and in all cases where there is reason to believe that rapid delivery may be required, it is more safe to rely on the thorough, continuous, hydraulic pressure of a Barnes's dilator than on pressure on the foetal parts.

5. Where the implantation is only lateral or partial, and where there is no object in hurrying the labor, bipolar version, drawing down a foot and leaving one thigh to occlude and dilate the os, may be practised, according to the method of Braxton Hicks, except in cases where the head presents well at the os, when,

6. The membranes should be ruptured, the waters evacuated, and the head encouraged to engage in the cervico-vaginal canal.

7. In the majority of cases, podalic version is to be preferred to the application of the forceps within the os.

8. In some cases, in the absence of assistance or the necessary instruments, the complete vaginal tampon,

in part or wholly of cotton, may be applied and left *in situ* until (within a reasonable time) it is dislodged by the uterine contractions and the voluntary efforts of the mother. In case of favorable presentation—occiput or breech—the tampon will not materially obstruct the descent of the child; and in some cases the tampon, placenta, and child will be expelled rapidly and safely without artificial assistance.

9. The dangers of septic infection by means of the tampon or India-rubber dilators are so slight, if properly used, as not to be considered as seriously impairing their great value.

10. Whenever it is possible, dilatation and delivery ought to be deliberately accomplished, in order to avoid maternal lacerations.

Finally. As cases of placenta prævia offer special dangers from post-partum hemorrhages, septicæmia, etc., the greatest care must be exercised in every detail of operation and nursing to avoid conveying septic material to the system of the mother.—*Canada Medical and Surgical Journal*, October, 1886.

**PROPHYLAXIS OF COOKS' CONJUNCTIVITIS.**—DR. G. C. SIMMONS, of Sacramento, Cal., writes as follows to the *Boston Medical and Surgical Journal*, of October 7, 1886:

A Chinese cook in our employ had suffered repeatedly from attacks of conjunctivitis owing to his labors over a hot cook-stove. These were soon cured by the use of collyria of borax and camphor, and a caution as to the real cause. But only to return. To our surprise, not long ago he appeared in large Chinese spectacles—tortoise-shell rims and plates of mica, transparent and non-magnifying. With these he goes happily to his work, and so far with no fear of a return of the conjunctivitis, and reasonably, too, as mica is notably a protector against heat. Consulting standard works on ophthalmology I find no reference to their use in occupations exposing one to conjunctivitis from heat, and the idea is certainly worthy of our remembrance.

**ACUTE MELANCHOLIA CAUSED BY IMPACTED FECES.**—H. A. HUTCHINSON, M.D., presents the following case in the October number of the *American Journal of Insanity*: Mrs. S., aged forty years, was recently admitted to the Western Pennsylvania Hospital for the Insane.

At the time of her admission she was suffering from acute melancholia, was very weak, extremely emaciated, skin bronzed, dry and harsh, hair dry and falling out, and all the secretions of the body were perverted.

In her conduct she was very suicidal, destructive of clothing, and presented the appearance of abject despair. Conversation was entirely incoherent, though she gave evidence of a few systematized delusions—that her body was infected with vermin and snakes, and her clothes with moths, which she tried vainly to drive away by frequently tearing her clothing and burning it.

The previous history of the case, obtained from her husband, was that of a gradual decline in bodily health during the past year, and the appearance of insanity within the last three weeks. Constipation had been constant, and more recently there had been inability to void urine, requiring the use of a catheter. Menstruation had ceased some years previously.

The family history told of three other members who had been insane, neither of whom recovered—two sisters and an uncle. The cause of insanity was stated as unknown. The medical treatment combined tonics, frequent applications of blisters to the nape of the neck, laxatives, and at night large doses of bromide of potassium and chloral.

Laxatives, when employed, were said to have always caused free movements of the bowels, but their use was followed by increased excitability.

Upon being admitted to the hospital, the patient was immediately placed in bed, and thoroughly examined.

In addition to the already detailed marked evidences of her exhaustion, a distinct tumor could be felt through the thin abdominal walls, following the course of the rectum and sigmoid flexure, and making the introduction of a catheter to relieve her distended bladder almost impossible.

The tumor was at once thought to be an accumulation of hardened feces, and the cause of ill-health and consequent insanity. Removal of the mass was accomplished only after much persistent effort for several days, and the employment of the various suitable injections, together with the free use of the scoop.

Rapid improvement in the patient's mental condition followed this procedure, and in less than one month she was discharged in perfect health of body and mind.

**POMADE FOR USE IN BLENORRHOEA.**—UNNA commends a composition of the following formula as a local application in cases of chronic urethritis:

Nitrate of silver . . . . .	1 part.
Balsam of Peru . . . . .	2 parts.
Yellow wax . . . . .	2-5 "
Cacao butter . . . . .	100 "

A metal sound, smeared with the pomade, is introduced into the urethra. In some cases four to six such applications have been sufficient for the production of a definitive cure. In others, it has been necessary to repeat this series from two to four times. In certain patients, also, it has been found needful to supplement this treatment by injection of sulphocarbolate of zinc.—*L'Union Médicale*, September 11, 1886.

**ALBUMINURIA IN DIABETES.**—DR. ROBERT MAGUIRE read before the Pathological Section of the Brighton meeting of the British Medical Association, a paper entitled as above, of which the following is an abstract:

Albuminuria is a complication of diabetes which is frequently overlooked, and which may be of grave or of insignificant import, according to the various conditions under which it may arise. It may occur as a chronic or as an acute albuminuria. In the chronic form the albuminuria is associated with an organic change in the kidneys and urinary tract, or it may be due to derangement of the circulatory apparatus of the kidney.

In *post-mortem* examinations made in long-standing cases of diabetes, it is common to find the kidneys hard and tough; and, when examined microscopically, they show an overgrowth of the interstitial tissues round the vessels and glomeruli and between the tubules. The capsule of the kidney may be slightly adherent; but it is rare to find a condition which could be called granular

kidney. Doubtless, this interstitial overgrowth has for its cause the irritation of the kidney by continuous overwork. It is a condition which, as might be expected, is occasionally associated with the presence of albumen in urine, but in only small amount. Such albuminuria has usually little or no influence upon the course of the diabetes; this goes its way as if no such complication had arisen. It must be remembered that one is now speaking of diabetes complicated by interstitial overgrowth in the kidney, and not of those cases of gouty interstitial nephritis, which may present at times an insignificant glycosuria, in addition to the persistent albuminuria. The albuminuria has in these two conditions an essentially different prognosis. Occasionally, however, as Dr. Pavy has pointed out, albuminuria may, to a certain extent, displace a glycosuria, and become the prominent symptom of the case.

Fatty degeneration of the kidney may, again, occur in diabetes, and give rise to an albuminuria, which exerts little influence on the progress of the case.

There is another organic change which I have sometimes seen in *post-mortem* examinations on diabetics, and which may conceivably give rise to albuminuria, although I offer this as a suggestion, and without proof of any kind. I allude to the thickening of the walls of the bladder, and with this—in all probability, in consequence of this—a dilatation of the ureters and of the pelvis of each kidney; in fact, a mild condition of hydro-nephrosis. We know from experimental evidence that ligature of the ureters will cause albuminuria, and it is possible that continuous high pressure in the pelvis of the kidney, produced in the way I have mentioned, might determine an albuminuria in diabetes.

Such are the organic kidney changes under which diabetic albuminuria may occur; and it is somewhat remarkable that these, which under other conditions would be considered grave lesions, are here commonly of so little consequence. This becomes almost a paradox, when we find that one form of functional albuminuria which may occur in diabetes is a very bad omen. In the later stages of diabetes as asthenia progresses, the heart begins to fail, and one of the early signs of this is a slight albuminuria, due to the deficient circulation of blood through the kidneys. At the same time, we find, of course, general asthenia, and not unfrequently nervous symptoms, such as great depression of spirits with hysterical phenomena, mental torpor, and drowsiness. This, however, is not true diabetic coma, and must not be confused with it. The albuminuria is in itself of little consequence, but the general condition producing it is very serious. The cardiac asthenia may in some cases be recovered from, under the influence of cardiac tonics, but in the majority of cases it is a near precursor of the final break-up.

I wish to call the special attention of the meeting to an acute form of albuminuria, which occurs in connection with diabetic coma, and which is of very serious prognosis. In pursuance of a complete examination of the urine of a patient suffering from diabetic coma of the dyspnoic type, I found a considerable quantity of albumen, which had certainly not been present before the coma set in. The patient died, and at the *post mortem* examination there was seen, in well-marked form, the "necrosis" of the epithelium lining the convoluted tubes and Henle's loops, described by Ebstein. Another



patient, under the care of Dr. Morgan in the Manchester Royal Infirmary, showed albuminuria about twenty-four hours before noticeable signs of diabetic coma appeared. I mentioned this in a note to a review in the *Medical Chronicle* for December, 1884, and since then I have never failed to find albumen in the urine of those patients suffering from diabetic coma of the true "Kussmaul's" type, with whom I have met. I have not a large number of cases to record, about eight or nine in all, but I find that Stokvis, of Amsterdam, at the Wiesbaden Congress of this year, has stated as his experience also that albuminuria is of very frequent occurrence in diabetic coma.

A case which came under my notice recently may be mentioned, in that it not only illustrated this point, but was also of medico-legal importance. A gentleman's coachman, who had previously been in apparently good health, although it was afterward elicited that he had been losing flesh for about a year, complained one day of a slight pain and uneasiness in the abdomen. For this, a druggist gave him a bottle of medicine, of which he took one dose, and died comatose four hours afterward.

The medical gentleman who was called in invited me to make the *post-mortem* examination. On opening the skull, a strong sweet smell of aceto-acetic acid was perceived, which became almost overpowering when the thoracic and abdominal cavities were opened. The liver was enlarged and congested, the kidneys large, in color mottled yellow and red, and on section the thorax was found to be greatly increased in extent. A quantity of urine drawn off from the bladder gave the ferric chloride reaction of aceto-acetic acid, contained a large quantity of sugar, and in addition a considerable amount of albumen. A small amount of albumen is frequently found in urine drawn from the bladder after death, but such could not be the origin of the large amount found in the above case. On microscopic examination of the kidneys, I found the glomeruli intact, but the epithelium of the convoluted tubes was greatly swollen, in some parts hyaline, in others appearing as a confused granular mass, which was very difficult to stain, and which showed very few nuclei. In many parts, too, the epithelium was detached from the walls of the tube. This condition of the kidneys was, therefore, the probable cause of the albuminuria. The pathological signs showed that the case was one of diabetic coma, and it was afterward proved that the medicine the man had taken contained nothing harmful.

Recently, in a case of diabetic coma, I analyzed the albumen which was present in the urine, and found that it consisted of two and a half parts of serum-albumen to one part of serum-globulin, a proportion which I have observed to be a common one in severe organic lesions of the kidneys.

The relation of this albuminuria, and its accompanying kidney change, to the diabetic coma, is of great importance, but uncertain. The coma is certainly not uræmic coma, but all the later researches prove that it is due to the circulation of some poisonous matter in the blood, whether this be acetone, aceto-acetic ether, aceto-acetic acid, or oxybutyric acid. Two possibilities seem open: one is that the poisonous matter in the blood irritates the kidneys, and so produces the change in the epithelial cells, which change is quite analogous, so far

as the convoluted tubes are concerned, to that produced by a large dose of cantharides. In support of this, it should be noted that, in the experiments in which attempts have been made to produce diabetic coma by injecting into the blood the various substances mentioned above, albumen has occasionally appeared in the urine. The other possibility is that something more than the presence of the poisonous matter in the blood is necessary to produce coma. It may be that this further determining influence is the epithelial change in the kidney, the sign of which is the albuminuria described. It will be remembered in this connection that, in the researches hitherto published, the complete symptomatology of diabetic coma as seen in man has not been produced in animals, by the injection of any poisonous matter into the blood, so long as the kidneys have been intact.—*British Medical Journal*, September 18, 1886.

**DISLOCATION OF THE TESTICLE.**—DR. SMITH reports, in *The Indian Medical Gazette*, for July, 1886, the case of a soldier who was struck with a rifle-butt in the scrotum. He complained of great pain, and examination showed absence of the left testicle from its normal position, and the presence of a small, rounded tumor, very sensitive on pressure, in the groin about at the internal ring. Nothing was done for the man, except to relieve him of heavy work. Some months later the patient died of beri-beri, and on post-mortem examination the testicle was found lying within the abdominal cavity, where it had contracted some adhesions to the peritoneum. A slit was seen at the internal ring, through which the little finger could be passed into a pouch running toward the scrotum. The man stated that the two testicles had always been present in the scrotum up to the time of the accident.

**JEQUIRITY IN TRACHOMA.**—DR. W. F. SOUTHARD formulates as follows the results of his experience with jequirity:

1st. The freshly powdered bean acts fully as vehemently as the solution, though in some cases, perhaps, the effects are not felt as quickly.

2d. The croupous membrane is formed fully as rapidly as after using the solution.

3d. The powder clears the cornea of pannus fully as effectively.

4th. The pain may be as severe from the use of the powder as from using the solution.

5th. Should spots of trachoma be left after the first application of the powder, it can be reapplied in from six to twelve days, thus localizing its action.

6th. Its permanent effects are the same as those produced by the solution.

7th. It appears to be much the safer remedy, for it does not seem necessary to limit its use to old trachomas with pannus.

8th. Attention is especially directed to the fact that great caution is necessary in using this remedy, in any form, on account of the unexpected and somewhat alarming constitutional effects sometimes produced.—*Pacific Med. and Surg. Journal*, October, 1886.

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## THORACENTESIS FOR PLEURITIC EFFUSION.

AMONG the subjects which occupy a sort of middle ground between the general practice of medicine and that of surgery, none is of greater interest or of greater importance than the question of the proper management of serous effusion into the pleural cavity. In regard to the treatment of empyema there is little difference of opinion; but in the treatment of purely serous effusion different practitioners hold diametrically opposite opinions. Some rely almost exclusively upon medicinal remedies, while others believe in early operative interference.

There are two principal reasons assigned for preferring medicinal treatment: First, it is sufficient in the great majority of cases to effect a cure, and it is safe; and, second, operative procedures are not more efficient, while they are dangerous.

In the defence of operative interference these reasons are directly reversed, and puncture of the wall of the thorax is asserted to be the best way of getting rid of the immediate and remote effects of an effusion, while, if properly conducted, it is almost entirely devoid of danger.

To decide which of these opposite opinions is correct, or what mean between them may be adopted, is not an easy task. But something may be gained by examining the grounds upon which they rest.

The efficiency of purely medicinal measures in the treatment of moderate pleural effusions cannot be doubted, nor can the assertion that it has sufficed for very large effusions be denied. To select but a few illustrations of this fact, BARBE, who is not afraid to operate, reports, in the *Archives G n rales de M decine* for May, 1885, a large number of cases cured

by the use of iodine externally, and of certain internal remedies. In some of his cases the effusion was estimated at as much as four pints. By the method which K rner, of Graz, first used in 1863—which consists in the withholding of fluids from the patient and in the administration of salt—some remarkable results have been reported. Thus GLAX, in the *Zeitschrift f r klinische Medicin*, Bd. ix. Heft 5, records twelve cases in which the exudate filled or almost filled the pleural cavity, and in which a cure was effected in an average of twenty-two days. Similar results have been reported by other trustworthy observers.

In the face of such facts, and of the opinion of many of the best clinicians, it must be acknowledged that in most cases the medicinal treatment of pleural effusion is entirely efficient, so far as getting rid of the effusion is concerned. Whether or not it is entirely safe, depends somewhat upon the way in which this word is applied. It is safe enough so far as the immediate result is concerned. But is it safe when the ultimate issue of the case is considered? Those who favor puncture of the chest wall assert that there is great danger to the lung from delaying its expansion, danger of adhesion, of consolidation, of retraction of the chest wall, and of permanent dislocation of other organs.

These accusations are somewhat vague, and, so far as we know, are not supported by any carefully prepared statistics. Still they deserve consideration, and the well-recognized fact that attacks of pleurisy often precede the outbreak of phthisis, to which CHAUVET has recently called attention in the *Lyon M dicale*, May 24, 1885, may indicate some imperfection in the method of treating pleurisy. This point, however, should not be strained any more than another, which is made against operative interference, that the outbreak of phthisis which sometimes follows is to be attributed to it.

The negative evidence in favor of the medicinal treatment of pleural effusion lies in the asserted danger of puncturing the pleural cavity. This is said to consist in the risks of septic infection, of converting a serous effusion into an empyema, of arousing into activity a latent tendency to tuberculosis, and a certain danger of wounding the lung. The last of these dangers is hardly of much significance, the next to the last probably owes its terrors to the mistake of taking *post hoc* for *propter hoc*. The danger of septic infection and of converting a serous effusion into an empyema is very real, and there have been only too many exemplifications of it. But it is an error to suppose that the danger is inevitable. With proper antiseptic precautions there is scarcely any reason why tapping the chest should subject the patient to risk of this sort. It is possible, of course, that the aspirating needle or trocar may pass through the

fluid and wound the lung, so that from it a source of putrefaction or of specific disease shall gain access to the cavity of the pleura. But this is very unlikely to happen, and no virulent material ought to come from without if the operation be done correctly. That this, however, does sometimes take place only shows that those who have had such results have something to learn in regard to the principles and practice of asepsis.

It cannot be maintained that there is any considerable danger in the operation of thoracentesis when done carefully, and the choice between it and medicinal treatment must be determined by the estimate of their relative efficiency, and especially by the suitability of either to each particular case.

In some cases the most conservative medical man feels constrained to tap, in others all but extremists would hesitate to do it. AUFRECHT, in the *Berliner klinische Wochenschrift*, No. 10, 1886, maintains that small effusions—which may be cured by salicylic acid—should not be tapped, but when the effusion reaches the third intercostal space in front, the fluid should be let out; and this he believes to be a good rule even when the symptoms do not seem to threaten life. But it is not well always to empty completely the pleural cavity. Aufrecht thinks that more than five pints should never be withdrawn at one sitting, and Barbe, in the paper above referred to, is of the opinion that tapping need not be resorted to until the accumulation amounts to about two quarts, and that only half of this should be drawn off at a time. His opinion is founded on an experience of fourteen cases, in which he made twenty-seven punctures, and in which there were no subsequent paroxysms of cough, or serous expectoration. In Aufrecht's experience morphia subdued the paroxysmal cough perfectly.

Very recently HEITLER, in a paper in the *Centralblatt für die gesammte Therapie*, for June, 1886, has advocated active interference in pleural effusions. He does not believe that early puncture can abort a pleurisy, and recent French experience has demonstrated that putting such a belief into practice has led to an increased mortality. AUFRECHT does not overlook the fact that desperate cases have recovered without tapping. But he regards the presence of either a very large effusion, a rapid rate of effusion, or a long persistence of the effusion as a sufficient indication for operative interference. What he means by long persistence of the effusion may be gathered from the statement that thoracentesis should be practised if the effusion remains stationary for two or three weeks, and shows no tendency to resorption. STÖHR, in an inaugural thesis, Erlangen, 1885, came to much the same conclusion. He analyzed fifteen cases of operation, and considered the proper indications to be urgent symptoms, great effusion,

rapid accumulation, and considerable displacement of the viscera.

In all that has been said thus far, it has been assumed that the discussion refers to simple serous effusions. For purulent, ichorous, or hemorrhagic effusions, the propriety of tapping, drainage, and washing-out, seems to be beyond question. But even in deciding what is to be done for an effusion supposed to be purely serous, it must not be forgotten that it cannot always be certainly determined without resort to hypodermatic aspiration. POLAIN, in the *Gazette des Hôpitaux*, Nos. 38 and 130, 1885, has asserted that there are no certain signs of the nature, nor of the amount of an effusion. This view may be an exaggerated one; but the possibility of error in this respect should not be overlooked.

In conclusion, we think that it may be said that medicinal treatment suffices for the relief of the great majority of cases of serous effusion in the pleural cavity, but that tapping should be resorted to when a rapid accumulation produces dangerous symptoms, or when long persistence of a large effusion makes it likely that this may cause irremediable changes in the lung or chest-wall. The assertion that phthisis may be provoked by a properly conducted tapping is not borne out by a study of a large number of cases, and the risk of converting an innocent effusion into a dangerous one, we believe to be dependent upon circumstances which can be avoided.

#### THE TREATMENT OF GONORRHOEA.

THOSE who have the largest experience in the treatment of gonorrhoea disclose the unsatisfactory condition of its therapeutics in the numerous and different plans which they adopt and recommend for its cure, in most of which a certain period of absolute rest seems to be essential. And every practitioner could doubtless testify regarding cases which have refused to get well in the orthodox way, and which have somehow been apparently cured by a druggist's or friend's prescription, while the patient continued to do the very things which his physician had charged him to avoid doing. The discovery of the so-called gonococcus led many to hope that at last the right plan of treatment was clearly indicated, and that the use of a germicide would be sure to effect a cure. Unfortunately in this, as in other connections, the germ theory has proved rather of speculative interest than of practical utility.

The fact remains that anti-bacterial injections cannot be said to be any more efficient in the treatment of gonorrhoea than others which have no such specific action; and their effect may be as fairly attributed to their influence in allaying the inflammation



as to any action they may exert upon its supposed germ.

Nor are injections alone always satisfactory in the treatment of gonorrhoea, for which reason they often may, and sometimes must, be supplemented by internal medication; while sometimes peculiar circumstances make it impossible for injections to be used, and then internal medication must be the sole reliance. The importance of such medication cannot be doubted, and it is worth while to call attention to a recent study of the subject by POSNER, in the *Deutsche medicinische Wochenschrift*, of August 26, 1886.

Posner rightly regards gonorrhoea as a cyclic disorder, which, under favorable circumstances, tends to a spontaneous cure, and the requisite time for which may be shortened by judicious treatment. His own experience has led him to think well of the internal administration of the oil of sandalwood for this purpose, which, when he uses it from choice, he supplements with injections of resorcin toward the second or third week. The length of time required for a cure, he finds to be about three or four weeks. He has used internal medication alone in those cases in which all authors agree that injections are to be avoided, such as those in which the gonorrhoea has passed the barrier of the compressor urethræ, and has led to epididymitis, prostatitis, cystitis, or other complications.

The best form of administration of the oil of sandalwood is in the French capsules, containing each five drops; of which he thinks ten or twelve may be given daily. Posner has also given the oil combined with a little oil of peppermint, and Lublinski has ingeniously given it on peppermint drops with satisfactory results.

The use of pure oil of sandalwood is not new, nor are its merits underrated in this country. It is better borne by the stomach than is the oil of copaiba—which is more active—and it undoubtedly relieves tenesmus and strangury while exerting a beneficial influence upon the urethritis. No internal medication, however, can entirely supersede the use of injections, which should be employed whenever circumstances permit, and made of materials suited to the condition of each case. In the stage of acute inflammation the blandest and most soothing injections must be employed, and after this stage is passed there is probably nothing better than sulphate of zinc of the strength of two grains to the ounce of water.

An important point in the use of medicated injections is, not simply to have the urethra washed out by the patient's urine—as is usually prescribed—but to order that the urethra shall be several times syringed out with water as warm as can be comfortably borne. When this is systematically done, injections are most efficient. And when, with the

proper use of injections, the administration of oil of sandalwood, or of copaiba is combined, we have what in the present state of our knowledge is the most satisfactory method of treating gonorrhoea.

PHYSIOLOGISTS have long maintained that the power of pepsin is limited to the digestion of albuminoids, and this indeed is unquestionably its sole functional significance. An entirely distinct field of observation, however, is opened up in the question of the influence of the digestive ferments upon ingested drugs.

In the *Bollettino della Società tra i cultori delle scienze mediche in Siena*, 1886, No. I., TORSSELLINI describes an interesting series of experiments upon the effect of pepsin upon the solubility of calomel. The observations in question took the form of artificial gastric digestions, and showed that pepsin in the presence of calomel materially increased the solubility of the latter, without the production of corrosive sublimate, in spite of the fact that the solution contained two-tenths of one per cent. of hydrochloric acid. Pepsin alone, in the absence of dilute acid, was, of course, without effect. Control experiments showed that while hydrochloric and lactic acids, in strengths of one-tenth to two-tenths of one per cent., increased the solubility of calomel, this effect was greatly augmented by the addition of pepsin, an effect evidently due to the direct action of the ferment.

At a recent meeting of the Chicago Medical Society, DR. SCHRIMER exhibited a case of actinomycosis in a man twenty-five years of age, who had had, for several years, abscesses and fistulæ in the submaxillary regions. In May abscesses were opened in the neck, and the pus contained the characteristic yellow granules. Latterly cough, with symptoms of lung disease, had appeared, and the actinomyces were found in the sputum. This is the first instance of advanced actinomycosis in man which has been described in this country. In Dr. Murphy's cases, also in Chicago, the trouble was confined to the jaws, and readily cured by operation.

Israel has recently reported a case which bears out his views of the origin of the trouble in carious teeth, which form a nidus for the development of the parasite. In an instance of actinomycosis of the lung, there was found, in one of the foci of disease, a small foreign body, which proved to be a fragment of a tooth, which had been aspirated into the lung, and had probably carried with it the germs of the disease.

WE have the pleasure of acknowledging the receipt of the following contributions to the fund for the relief of the Charleston Medical College:

Dr. Roberts Bartholow, Philadelphia . . \$25  
Dr. Wharton Sinkler, Philadelphia . . . 10

## REVIEWS.

"HASCHISCH." A novel. By THOROLD KING. 12mo. pp. 314. Chicago: A. C. McClurg & Co., 1886.

THE title and the cover of this book are suggestive, leading its buyer into vistas of pleasure, which, like the dreams of haschisch, are found only a delusion.

The story is one 'long' since stereotyped in fiction. Two brothers love the same girl. One of the brothers, just returned from the diamond fields with abundant wealth, is murdered with chloroform; presumably by a friend, who in a position of trust had, by his carelessness, permitted his employers to be robbed, and had thereby lost his position. This young man, Gordon Wright, is convicted of the crime, and sentenced to imprisonment for life, though the evident intention of the author to have him pardoned in the near future is disclosed by the previous introduction into the story of Philip Arnold, whom the murdered man, the night previous to his death, charged with dishonesty in the management of the affairs of a ward committed to his care.

Madge Irving, Gordon Wright's affianced, of course does not believe in his guilt, and, as the story progresses, the plan to prove him innocent takes shape. Into this Kenneth, the brother of the murdered man enters, but unfortunately falls sick of a fever, which gives Miss Madge opportunity to study the symptoms, and weigh the chances of his recovery with all the zeal of a female devotee to the study of physic, which, indeed, from her success and judgment, in this case, she should have been. Kenneth at last recovers, and after a tedious convalescence, resolves to sail for Europe in search of Philip Arnold, upon whom the reader has long since fastened the crime. The physician who attended him during his illness, was a young man whom he had met abroad, and with whom he was on terms of intimacy. Philip Arnold is finally found, and the labor of proving his crime begun. Kenneth engages himself to the suspected man as a servant, and sends for his friend, the young physician, who, accompanied by a Mr. Smith, sails for Paris, to assist in the business of ferreting out the crime.

Now is the reader introduced to haschisch, by means of which it is proposed to ensnare the villain of the story. A long description of the action of the drug, with its history is given, with the idea of explaining how the culprit is to be caught. By the aid of a French Professor, Arnold is at last duped into partaking of the drug, and under its influence goes through a pantomime in which are enacted the scenes of the murder. On awakening from his haschisch dream, the murderer hastens home, and under the fear that he has disclosed something to his detriment, compels his servant to relate all his actions while under the influence of the drug. This, Kenneth does, and Arnold attempts to murder him at the point of recital where he is charged with the death of Austin Hardy, but foiled in his attempt at this second crime by the appearance of Smith and the young physician, he cuts his throat with a razor which is happily nigh to end the story, which otherwise might have been unduly prolonged through another trial and conviction. Gordon Wright is pardoned and restored to his former position, the crime of the robbery being, like that of the murder, fixed upon Philip Arnold, and

everyone but Smith enters into the bliss of matrimony, the wise forethought of the author no doubt leading him to take no further steps for the perpetuation of an already famous name.

The medico-legal aspect of the story, if indeed the author seriously intended there should be any, is without value. The days of inquisition, whether of drugs or torture by wheel and flame, are long since passed. Law does not require a criminal to condemn himself, and the administration of a drug that destroys self-control, and abolishes the will, is lawless even for the ends of justice. As to the use of chloroform for criminal purposes, we may say, it might be so used, though its employment is exceedingly doubtful, and its success uncertain.

A GUIDE TO THE PRACTICAL EXAMINATION OF URINE, FOR THE USE OF PHYSICIANS AND STUDENTS. By JAMES TYSON, M.D., etc. Fifth edition. Philadelphia: P. Blakiston, Son & Co., 1886.

THE several newer tests for sugar, albumen, and the various proteid substances are given much space in the fifth edition of Professor Tyson's "Practical Examination of Urine." The index refers to thirteen tests for the presence of glucose in the urine and seven for albumen. The only fault that can be found with the book is that it gives a superabundance of somewhat complicated tests, many made with chemicals of an uncommon sort, and does not quite sufficiently explain, for a practitioner's handbook, which are the most to be recommended. It seems to us time, for instance, that a process so coarse as Moore's potash test for sugar should be omitted from text-books or the student warned against it, especially as to its behavior with mucin, for when liquor potassæ is boiled with urine containing that substance, the odor and color supposed by Moore to be "characteristic" of grape-sugar result.

And would not one test for indican be enough?

Jaffé's is probably the better of the two given, but it ought to be mentioned that unless the solution of calcic hypochlorite be perfectly fresh the test will fail—and we may add that if the resulting color be red instead of blue, iodides are present in the urine, so that the method may also be made useful in ascertaining their absorption. Lieben's iodoform test for acetone may, it should be said, be used for ordinary clinical purposes, without first distilling the urine.

No one who has used the former editions of Professor Tyson's most valuable little book, can help being grateful to him for so much information gathered into so succinct and convenient a form, and in spite of the small criticisms we have made of minor matters, we are fully sensible of its usefulness and excellence, and hope to see it improving and keeping up to date with annual future editions.

## SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, October 7, 1886.*

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. JULIUS ALTHAUS, of London, a Corresponding Fellow of the Academy, read a paper on

## SOME PHASES OF CEREBRAL SYPHILIS.

(See page 421.)

DR. R. W. AMIDON said that he would like to call attention to one factor in the production of syphilitic coma which the learned author of the paper had not specifically referred to, viz., the factor of a weak heart. Dr. Althaus, he felt sure, however, would be willing to acknowledge its agency, since he had mentioned among the exciting causes over-exertion, anxiety, and alcoholic and sexual excesses, all of which conditions are recognized as conducing to weak heart. He thought that this important factor did not receive sufficient attention from the profession.

The occluding disease of arteries was well understood, but alone he did not think it sufficient to account for the coma. Taken in connection with a weak heart, however, it would satisfactorily account for all the phenomena so graphically described in the paper.

DR. A. D. ROCKWELL remarked that as our experience extends in the domain of nervous diseases we must necessarily become more and more impressed with the importance of syphilis in this connection. Patients often state, with honest conviction, that they have never had syphilitic trouble; and yet the subsequent history of their cases proves conclusively that they have. Dr. Rockwell said he had had no personal experience with syphilitic coma, but he thought that perhaps a case which he had had under his care some time ago, might prove of interest in connection with the subject of the paper. It was one of spastic paresis, with some difficulty of utterance. From the beginning there had been a facial paralysis. This had been followed by aphasia and hemiplegia, which afterward disappeared, and then reappeared again. The patient denied that he had ever had syphilis, but a course of antisyphilitic treatment resulted in very marked benefit.

DR. ROBERT W. TAYLOR said that he was in hearty accord with the author of the paper, in much that he had said, but thought that he had scarcely done full justice to certain observers in the historical part of it. It was true that two great pathological epochs in connection with syphilis were inaugurated by Virchow and Hübner; but these were outshone, he believed, by certain clinical epochs. The Strassburg thesis of Hildebrand shows that about 1848 and 1850 there was some professor at that university who had taught a knowledge of cerebral syphilis. The next epoch commenced about 1863, with the writings of Lancereaux, Lamier fils, and other French authorities, and these were the text-books from which a vast amount of our knowledge had been obtained. Without detracting from the labors of Hübner, he thought that a word of acknowledgment was due the late Walter Moxon, of London, for his remarkable contributions on syphilitic disease of the arteries, published in the *Guy's Hospital Reports*.

Dr. Althaus's description of syphilitic coma was clear, systematic, and admirable in every way; it was evidently the result of careful bedside study. As regards syphilitic hemiplegia, Drs. Van Buren and Keyes, in this country, had studied the subject very thoroughly, and all the varieties and symptoms described by Dr. Althaus had been noted in the paper which Dr. Keyes wrote a number of years ago, embodying their researches, the main points of which had now been in-

corporated in several text-books. He believed that certain concomitants, besides syphilis, were necessary to produce these severe neuroses, and among these he would rank as of great importance alcoholic and sexual excess, and unnatural sexual habits.

DR. LANDON CARTER GRAY, of Brooklyn, said that some questions brought up by the author were, he thought, worthy of some little discussion. The pathology of these cases of syphilitic coma is a subject which still deserves a great deal of study, and personally he was hardly prepared to accept Dr. Althaus's conclusions. The textural changes which took place in the brain itself were out of all proportion to the arterial changes, as was shown in two autopsies which he had had the opportunity of seeing, in cases where the coma was the predominant symptom before death, the paralysis present being secondary. In both cases the presence of arterial disease was evident not only to microscopic inspection, but also to the naked eye. Yet this, so far as he was able to judge, was not sufficient to account for the symptoms noted during life. In one of the cases there were numerous textural changes, including softening amounting to pulpiness, with lepto-meningitis and syphilitic neoplasms. The mere theory of some occlusion of the basilar artery, he thought, was not enough to account for the coma. Again, if the coma were very profound, it might be impossible to say whether any paralysis were present or not.

As to the matter of treatment, he was somewhat surprised to hear the views expressed by Dr. Althaus. He depended apparently entirely on mercurials, and had little or nothing to say in regard to iodide of potassium. As for himself, he had some time since given up the use of mercury entirely in these cases, as he had never seen any beneficial results from it. He had had indubitable evidence in his experience of the superior value of the iodide, and he believed that this was the experience also of the great majority of neurologists in this country.

DR. PUTZEL said that he was glad that the question of therapeutics had been taken up, and stated that he agreed entirely with the author of the paper in regard to the superiority of mercury. It was now about six years since he had become convinced that syphilis did not yield, or at least but very slowly, to iodide of potassium. Formerly he employed the bichloride of mercury; but more recently he had found much better results from the use of inunction. It is his custom to employ this until the teeth begin to be touched, and then discontinue it. In connection with this, small doses of iodide of potassium sometimes seem of service.

As to occlusion of the basilar artery, which Dr. Althaus would assign as the direct cause of syphilitic coma, it seemed to him that we were likely to have a number of vessels injured, but not sufficiently to cause occlusion. The blood-supply would be diminished, but this would not be sufficient to cause total occlusion until the end.

## CORRESPONDENCE.

THE INTESTINAL SUTURE OF APOLITO;  
ADDITIONAL REMARKS.

To the Editor of THE MEDICAL NEWS,

SIR: In the number of THE MEDICAL NEWS for August 28, 1886, I presented an account of this form of



suture, with illustrations, but could not at the time state when the method originated, and presumed that it might have been more recent than it now appears to be. Additional information just received from the same source shows that the suture originated with Dr. Nicola Apolito, of Cagnano, Province of Capitanata, one of the Southern provinces of Italy, and was described in the *Osservatore Medico di Napoli* for July 1, 1841. It is therefore older than that of Gély, and not a modification or simplification of it.

ROBERT P. HARRIS, M.D.

PHILADELPHIA, October 12, 1886.

## NEWS ITEMS.

**A RESIGNATION FROM THE INTERNATIONAL MEDICAL CONGRESS.**—We are informed that Dr. E. Williams, of Cincinnati, has resigned the Presidency of the Section of Ophthalmology in the Washington Congress.

**THE TITLE OF DOCTOR** was invented in the twelfth century, at the first establishment of the universities. William Gordenia was the first person upon whom the title of Doctor of Medicine was bestowed. He received it from the college at Asti in 1329.

**DOUBLE EMBRYO IN A SINGLE BLASTODERM.**—Professor Legge, in a communication made to the Eustachian Society of Camerire, states that he has had the good fortune of meeting with, in a fowl's egg, at about the third day of incubation, two embryos in a single blastoderm, joined together at the summit.

**OBITUARY RECORD.**—Died, in New York, on October 7th, in the 89th year of his age, Dr. JAMES ANDERSON. Notwithstanding his advanced years, he was in his usual health and vigor until two days before his death, when he was attacked with cholera morbus.

Dr. Anderson was born at the Battery on February 21, 1798, and was descended from an old Dutch family. He received his early education in the city schools, and began the study of medicine under Dr. David Hosack. In 1821 he was graduated from the College of Physicians and Surgeons, and began to practise medicine in the city. He still continued his connection with Dr. Hosack, and for a number of years examined all the latter's students. He was one of the early presidents of the New York Academy of Medicine. He was the founder and first President of the Physician's Aid Society, and was prominently identified in an official capacity with the College of Physicians and Surgeons. He was also the consulting physician of the St. Nicholas Society, and was prominently identified with all the old Dutch interests in the city of New York.

**INFLUENCE OF MAGNETISM ON CHEMICAL REACTION.**—Mr. E. L. Nichols, in the *Journal of the Chemical Society*, describes a set of experiments with aqua regia, nitric acid, hydrochloric acid, and sulphuric acid, to illustrate the phenomenon that when finely divided iron is placed in a magnetic field of considerable intensity, and exposed to the action of the acid, the chemical reaction differs in several respects from that which occurs under ordinary circumstances. With aqua regia, it was

found that the speed of the reaction is greater in the magnetic field than without, and that the heat of chemical union is much greater. With nitric acid, the effect of the magnet was greatly to increase the speed, reducing the average time from eight minutes to less than one minute. With sulphuric acid, the reaction was uniform and complete, and apparently of the same chemical character within and without the field. The magnet was found, however, to increase the speed of reaction, and to decrease the amount of heat produced. A series of measurements was made with nitric acid, in which powdered copper was substituted for iron. The reaction in the field was found to be identical with that which occurred when the magnet was not in action.

**SUICIDAL MANIA FROM HIGH TEMPERATURES.**—A case of attempted suicide from acute mania, recently treated in one of the New York hospitals, has served to call renewed attention to the hardships of the life of stokers aboard ocean steamships. A rather intelligent English circus performer, finding himself getting too corpulent for the requirements of his calling and believing that much hard exercise in a very high temperature would rid him of flesh, decided to make the ocean passage as a fireman in a steamship, and obtained the opportunity he desired. The fire-room on a steamer is away below the water line, where ventilation is impossible, or at least not attempted. The temperature ranges from 135° to 175°, and in that atmosphere the men are required to shovel coal eight hours in every day—two stretches of unceasing and heavy work of four hours each in the twenty-four. The man in question was advised that he could not stand the exhaustive labor, but he was not to be dissuaded. Several times he fell fainting on the hot floor of the fire-room, but always insisted on resuming his duty. When within a day of port, in a fit of mania, he rushed from the heat, climbed to the deck, and leaped over the rail into the sea. Sailors rescued him, but he had to be kept manacled during the remainder of the trip.

DR. GEORGE T. STEVENS, of New York, has received the prize of the Royal Academy of Medicine of Belgium, for the best essay on "Elucidating the Pathogeny and Therapeutics of the Diseases of the Nervous Centres by Clinical Facts and Experiments." Of all the essays submitted, only his will be published by the Academy.

DR. IRELAND's book, *The Blot upon the Brain*, is to be translated into German. The French translation of this work, which is being prepared by Dr. Edgar Bérillon, of Paris, is nearly finished, and will be published in November. The "Blot" has been prohibited by the ever-vigilant Russian censorship. This is no doubt owing to the chapter on the hereditary insanity of the Romanoffs, and the historical illustrations about the miseries which insane monarchs have caused to their subjects.

**ASSOCIATION OF THE SURGEONS OF THE PENNSYLVANIA COMPANY.**—The eighth semi-annual meeting of this Association will be held at the Seventh Avenue Hotel, Pittsburg, Pa., Tuesday, October 19, 1886, commencing at 9 A. M., Eastern time. A number of papers on appropriate subjects are promised.

**PAUL REVERE AS A DENTIST.**—In the *Boston Gazette*, December 19, 1768, appears the following curious advertisement:

WHEREAS many Persons are so unfortunate as to lose their Fore-Teeth by Accident, and otherways, to their great Detriment, not only in looks, but speaking both in Public and Private: This is to inform all such, that they may have them replaced with artificial Ones that look as well as the Natural, & answers the End of Speaking to all Intents, by PAUL REVERE, Goldsmith, near the Head of Dr. Clarke's Wharf, Boston.

\* \* All Persons who have had false Teeth fixed by Mr. John Baker, Surgeon-Dentist, and they have got loose (as they will in Time), may have them fastened by the above, who learnt the method of fixing them from Mr. Baker.

**UNUSUAL CAUSE OF DEATH.**—The French public was recently agitated by the discovery of the dead body of a genteel girl in a sequestered street in the suburbs of Paris. There were no marks of violence, but no doubt was entertained, either by the police or the public, that the death was due to crime. For some days the journals were full of wild theories as to the motives which might have prompted the murder. The real circumstances of the case, as now ascertained, are a trifle less romantic, but are sufficiently curious, from several points of view, to merit a passing remark.

At the post-mortem examination, which was made in the usual course of events at the Morgue, it was discovered that death was due to suffocation caused by impaction in the larynx of a collection of the *Ascaris lumbricoides*, which the child had presumably vomited, but not ejected. Not the least remarkable feature in the case is the explanation offered by the parents of their conduct in the matter. Terrified by the sudden death of the child, which nothing had foretold or could explain, they had preferred depositing the body in an unfrequented spot, to risking the malicious remarks and innuendoes of the neighbors and that dread official, the *conciierge*. Rather than face this, and a possible trial for manslaughter, they, in a fit of desperation, resorted to the reprehensible plan which excited so lively an interest in French society. The cause of death is one which deserves to be recorded in the annals of legal medicine.

**APPOINTMENT IN COOPER MEDICAL COLLEGE.**—Samuel O. S. Potter, A.M., M.D., has been called to fill the Chair of Theory and Practice of Medicine, in Cooper Medical College, made vacant by the death of Professor Henry Gibbons, Sen.

**BEAUMONT HOSPITAL MEDICAL COLLEGE.**—Under this name a new medical school has been organized in St. Louis.

**FREE DISPENSARIES** are said to be almost unknown in France, there being only three in Paris. What a paradise for young doctors such a country must be, says the *Maryland Medical Journal*.

**HEAT HOLIDAYS.**—A very beneficent action is now required by law in Germany and Switzerland by which

holidays are obligatory in all public and private schools when the temperature reaches a certain height. These heat holidays are called "hitzferien," and are worthy of adoption in other schools. In Basle new regulations have just been issued concerning heat holidays. When the temperature rises twenty degrees (Reaumur) in the shade at 10 o'clock in the morning, holiday is to be proclaimed to the scholars until the afternoon. Two such holidays were proclaimed during a recent hot week, to the no small delight of the boys and girls, whose jubilant greeting of the announcement could be heard from the open windows of the gymnasium.

**AMERICAN PHARMACEUTICAL ASSOCIATION.**—At the last meeting of this Association the following resolution was adopted.

*Resolved*, That this Association solicit the aid and cooperation of the American Medical Association, in promoting the prescribing by physicians of official medicines only, or such preparations as have published formulas, in preference to others; and that the several State Pharmaceutical Associations make similar requests of their respective State Associations.

**DEATH FROM USE OF COLLODION IN SMALLPOX.**—A death is reported in France from the application of collodion to the face of a woman suffering from smallpox. The design of the application was to prevent pitting. Suppuration took place under the mask of collodion, and the patient died after great suffering. As the smallpox was discrete and uncomplicated and the autopsy showed no visceral lesions, the fatal termination would seem to have been due to the injury resulting from the collodion.

**AN UNDESIRABLE EXPERIMENT.**—A recent incident in the Michigan College of Medicine has been a source of much anxiety to more than one of the parties concerned. One of the professors of clinical medicine was giving his final lecture to the class on the subject of venesection. No patient being at hand upon whom the operation could be performed, the lecturer asked for a volunteer. One of the students responded, and was bled. The demonstration was successful; but subsequently inflammation of the wound supervened, followed by abscess, erysipelas, etc., and caused the gravest anxiety to the student, his parents and fellows, and to the operator himself. Fortunately, the patient is convalescent. The incident is one which may well be borne in mind by would-be observers. We are already familiar with experiments on the human subject, which, whatever their value as arguments, have led to more or less serious consequences. The experimenters were in many cases students, and were, therefore, probably undeterred by consideration for their wives and families; but certainly some caution is desirable, since a fatal result would, in all probability, result in a verdict of manslaughter against the victim's accomplices.

**A BRUTAL PHYSICIAN.**—A French journal states that a physician was called in the night to see a woman in childbirth. The labor was complicated, and an operation was necessary, for the performance of which the physician demanded 250 francs in advance. The husband was a laboring man, and had but 100 francs, which

he offered, with promises to pay the balance. The doctor refused in spite of the man's entreaties. Before another physician could be obtained, the woman died in great agony, two lives having thus probably been sacrificed for the paltry sum of thirty dollars.

**SIR THOMAS WATSON AND SIR JAMES PAGET.**—At the recent banquet of the British Medical Benevolent Fund, Dr. Broadbent, in proposing the health of the Chairman, Sir James Paget, applied to him the words Sir James himself had used of Sir Thomas Watson: "His knowledge was so vast, his goodness so great, and his example so elevating, that we all wished he might spend part of his immortality on earth."

**HOPELESS.**—Sir Astley Cooper relates the following anecdote of an Irish candidate before the Examining Board of the London College: "What is a simple and what is a compound fracture?" asked the examiner. The reply was: "A simple fracture is when a bone is broke, and a compound fracture when it's all broke." Sir Astley asked him what he meant by "all broke." "I mean," he replied, "broke into smithereens, to be sure." I ventured to ask him what was "smithereens." He turned upon me with an intense expression of sympathy upon his countenance. "You don't know what is smithereens? Then I give you up."—SIR CHARLES A. CAMERON, in *Dublin Journal of Medical Science*.

**AMERICAN PUBLIC HEALTH ASSOCIATION.**—The concluding session of the American Public Health Association was held on October 8th. The first business, after routine, was the election of officers, which resulted as follows:

*President.*—Dr. Geo. M. Sternberg, Surgeon U. S. A.

*Vice-Presidents.*—Prof. Charles N. Hewitt, Secretary State Board of Health, Minnesota; Prof. C. A. Lindsley, Yale College, Connecticut.

*Secretary.*—Dr. Irving A. Watson, of Concord, N. H., reelected.

*Treasurer.*—Dr. J. Berrien Lindsley, of Nashville, Tenn., reelected.

The Executive Committee is composed of the above officers, Dr. Henry B. Baker, of Lansing, Mich.; Prof. Hosmer A. Johnson, of Chicago, Ill.; Dr. Joseph H. Holt, of New Orleans, La.; Prof. George H. Rohé, of Baltimore, Md.; Col. D. P. Hadden, of Memphis, Tenn.; and the following Vice-Presidents: Dr. H. P. Walcott, of Cambridge, Mass.; Dr. Stephen Smith, of New York City; Dr. Jos. M. Turner, of Washington, D. C.; Dr. Edwin M. Snow, of Providence, R. I.; Dr. John H. Rauch, of Springfield, Ill.; Prof. James L. Cabell, University of Virginia, Va.; Dr. John S. Billings, U. S. A.; Prof. Robt. C. Kedzie, of Lansing, Mich.; Dr. Ezra M. Hunt, of Trenton, N. J.; Dr. Albert L. Gihon, U. S. N.; Dr. James E. Reeves, of Wheeling, W. Va.

Memphis, Tenn., was the place selected for holding the convention of 1887, and the Association adjourned.

**AN AFRICAN MEDICAL JOURNAL.**—A four-page weekly paper, the *South African Medical Journal*, is published at Cathcart, Cape Colony. Each number opens with an excellent editorial article, followed by a short installment of a communicated article ("Cases Illustrating the Utility of Iron Salts in Syphilis," by W. Darley-

Hartley, M.R.C.S., L.R.C.P., L.M.), and closes with a number of pithy annotations. Mr. Darley-Hartley, the contributor alluded to, seems to be also the editor and proprietor of the journal. Such good work as he is doing in his triple capacity certainly deserves support and coöperation.

## NOTES AND QUERIES.

### CORRIGENDUM.

*To the Editor of THE MEDICAL NEWS.*

SIR: In my article on the "Subiodide of Bismuth" (Oct. 9th), the lines, "They simply oxidize the deoxidized pus," etc., should have been omitted, as they were context to matter not printed, and had no reference to iodine or to bismuth.

Respectfully,

A. SIDNEY REYNOLDS.

### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING OCTOBER 9, 1886.

SUDDARDS, JAMES, *Medical Director U. S. N.*—Will convene Medical Board, October 6, 1886.

BROWNE, J. MILLS, *Medical Director U. S. N.*—Ordered to report to President Medical Board, October 6, 1886.

DEAN, R. C., *Medical Director U. S. N.*—Ordered to report to President Medical Board, October 6, 1886.

### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 5 TO OCTOBER 11, 1886.

MATTHEWS, WASHINGTON, *Captain and Assistant Surgeon.*—Granted leave of absence for one month and twelve days, with permission to go beyond sea.—S. O. 232, A. G. O., October 6, 1886.

FISHER, W. W. R., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended one month.—S. O. 230, A. G. O., October 4, 1886.

BORDEN, WM. C., *First Lieutenant and Assistant Surgeon.*—Relieved from temporary duty at Fort Bridger, Wyoming, and ordered to return to his station, Fort Douglas, Utah.—S. O. 126, Department of the Platte, October 2, 1886.

HAMMOND, JOHN, F., *Colonel U. S. Army* (retired).—Died at Poughkeepsie, N. Y., September 29, 1886.

### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING OCTOBER 9, 1886.

PECKHAM, C. T., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, to take effect when relieved, October 5, 1886.

KALLOCK, P. C., *Passed Assistant Surgeon.*—Granted leave of absence for twenty-one days, to take effect when relieved, October 5, 1886.

PETTUS, W. J., *Assistant Surgeon.*—To proceed to Evansville, Indiana, for temporary duty, October 8, 1886.

KINYOUN, J. J., *Assistant Surgeon.*—Appointed an Assistant Surgeon, October 4, 1886. Assigned to temporary duty at New York, N. Y., October 5, 1886.

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course, not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 2004 Walnut Street, Philadelphia.